BUSINESS AND ECONOMIC STATISTICS II  
STAT2112-Section MV – CRN 97367 – Fall 2011  
Monday & Wednesday, 3:00 – 4:50 PM  
Mount Vernon Campus, Room: ACAD 127

Instructor: Thomas A. Vadakkeveetil, Ph.D.  
Office Hours: Before & after class and/or by appointment  
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TEXTBOOK & COURSE MATERIALS  
Softwares: SPSS (Available at most of the GWU computer labs) and Excel

COURSE DESCRIPTION  
This is a survey course on statistical methods. We will discuss the science of statistics to the extent of its practical applications in making sense of available data (information). We will cover statistical techniques such as analysis of variance, regression analysis, and categorical data analysis related to the topics in collecting meaningful information as well as interpreting and predicting the collected outcomes.

COURSE PREREQUISITE  
Stat 1051, 1053, or 1111

LEARNING OUTCOMES  
As a result of completing this course, students will be able to:  
1. Analyze data to test more than two means using analysis of variance technique.  
2. Construct one-way table and two-way table to analyze categorical data.  
3. Determine/interpret regression model.  
4. Perform statistical procedures such as ANOVA, Chi-Square and Regression model using SPSS software.

COURSE CONTENTS  
1. Review of Confidence Interval and Tests of Hypotheses: Chapters 6 & 7  
2. Design of Experiment and Analysis of Variance (ANOVA): Chap 8  
   Completely Randomized Design: Single Factor, Multiple Comparisons of Means, Randomized Block Design, Factorial Experiments  
3. Categorical Data Analysis: Chap 9  
   One Way Table, Two Way Table, Chi Square Test  
4. Regression Analysis: Chap 10, 11  
   Regression Model, Inferences about the Model, Coefficient of Correlation, Coefficient of Determination, Using the Model for Estimation and Prediction, Residual Analysis, Simple vs. Multiple Regression Models  
5. Non Parametric Statistics: Chap 14  
   Distribution-Free Tests, Sign Tests, Wilcoxon Signed Rank Test for Independent Samples and Paired Differences, Spearman Rank Correlation  
6. Time Series (if time permits): Chap 13  
   Index Numbers, Exponential Smoothing, Forecasting, Auto Correlation
COURSE POLICIES

- Quizzes and examinations (midterm and final) are in-class tests; there will be no take-home tests. Quizzes are closed-book tests; midterm and final exam are open-textbook.
- There will be no make-up exam (except for very special reasons) or extra-credit assignments.
- Final examination is cumulative, based on the entire syllabus.
- Students must bring a calculator for quizzes and exams; sharing of calculators not allowed.
- Assignments will be discussed in the class well in advance, and students will be given sufficient time to complete them.
- Assignments submitted after the deadlines will not be accepted.
- There will be absolutely no tolerance of dishonest conduct during the exams, and severe measures will be taken against dishonest conduct. University academic honesty policies will be enforced – check www.gwu.edu
- Courtesy rules: No cell phone calls; please turn off your cell phones during class sessions. No consumption of food is allowed; drinks are allowed when consumed in a quiet manner.
- [NOTE: for university policies on teaching, see http://www.gwu.edu/~academic/Teaching/main.htm]

COURSE REQUIREMENTS

Four Quizzes, In-Class Midterm, In-Class Final, Three SPSS Projects. [They are open-textbook tests.] Regular class attendance is strongly recommended.

GRADING POLICY

- Quizzes: 20%  
- Projects: 15%  
- Mid-Term: 30%  
- Final Exam: 35%

GRADING SCALE

- A = 94-100%; A- = 90-93%; B+ = 87-89%; B = 83-86%; B- = 80-82%; C+ = 77-79%; C = 73-76%; C- = 70-72%; D+ = 67-69%; D = 63-66%; D- = 60-62%; F <60%

EXAM SCHEDULE

- Mid-Term: To be announced. Final Exam: Will follow the university exam schedule.
- Quizzes: To be announced.

ACADEMIC INTEGRITY

I personally support the GW Code of Academic Integrity. It states:: “Academic dishonesty is defined as cheating of any kind, including misrepresenting one's own work, taking credit for the work of others without crediting them and without appropriate authorization, and the fabrication of information.” For the remainder of the code, see: http://www.gwu.edu/~integrity/code.html

SUPPORT FOR STUDENTS OUTSIDE OF THE CLASS ROOM

DISABILITY SUPPORT SERVICES (DSS)

Any student who may need an accommodation based on the potential impact of a disability should contact the Disability Support Services office at 202-994-8250 in the Marvin Center, Suite 242, to establish eligibility and to coordinate reasonable accommodations. For additional information please refer to: http://gwired.gwu.edu/dss/

UNIVERSITY COUNSELING CENTER (UCC): 202-994-5300

The University Counseling Center (UCC) offers 24/7 assistance and referral to address students' personal, social, career, and study skills problems. Services for students include:

- crisis and emergency mental health consultations
- confidential assessment, counseling services (individual and small group), and referrals

http://gwired.gwu.edu/counsel/CounselingServices/AcademicSupportServices
SECURITY
In the case of an emergency, if at all possible, the class should shelter in place. If the building that the class is in is affected, follow the evacuation procedures for the building. After evacuation, seek shelter at a predetermined rendezvous location.

HOMEWORK
Must practice all the solved examples in the chapters (excluding those in “Optional” sections). All the problems in “Learning the Mechanics” sections of the exercises are strongly recommended. Answers to select odd-numbered problems are given in pages A-1 thru A-8 in Appendix. Also, some specific problems will be assigned. Do as many problems as possible. Homework will not be graded.

Chapter 6 (Test of Hypothesis - Review)
All the “Learning the Mechanics” problems and the other problems with answers

Chapter 7 (Confidence Interval and Hypothesis Testing - Review)
All the “Learning the Mechanics” problems and the other problems with answers.

Chapter 8 (Design of Experiments & Analysis of Variance)
All the “Learning the Mechanics” problems and the other problems with answers.

Chapter 9 (Categorical Data)
All the “Learning the Mechanics” problems and the other problems with answers.

Chapter 10 (Simple Linear Regression)
All the “Learning the Mechanics” problems and the other problems with answers.

Chapter 11 (Multiple Regression)
All the “Learning the Mechanics” problems and the other problems with answers.

Chapter 13 (Methods of Quality Improvement - Available on CD)
All the “Learning the Mechanics” problems and the other problems with answers.

Chapter 14 (Time Series - Available on CD)
All the “Learning the Mechanics” problems and the other problems with answers.

Specific problems will be assigned from each chapter for practice.