BUSINESS AND ECONOMICS STATISTICS II
STAT211 – Section 12 – CRN 13406 – Fall 2016
[08/29/16 – 12/12/16]
Wednesdays & Fridays, 9:35 – 10:50 PM
Main Campus, Room: MON 113
SYLLABUS [Version: 08/25/2016]

Instructor: Thomas A. Vadakkeveetil, PhD
Office Hours: Fridays, 1:00–2:00 PM and by appointment
Statistics Department, Rome 764
Contacts: TVAlex@gwu.edu Tel: 202-966-5079
TA Chen Chen

TEXTBOOK & COURSE MATERIALS
Strongly Recommended: Student Solution Manual
Software: SAS/SPSS. Any one of them. Not required to buy; available in GWU labs.

SPECIAL REQUESTS FROM YOUR INSTRUCTOR. Please …..
- Your emails must have your full name, course number (STAT2112) and a mention of the issue in the SUBJECT line of the email.
- Bring your textbook to class.
- Turn off your cell phones during the class.
- Do not engage in conversation with your neighbors while the instructor teaches.
- Do not disturb the class or your classmates.
- Avoid tardiness. Come to class on time and do not leave before the class ends.

COURSE DESCRIPTION
Business and Economic Statistics II: Continuation of Stat 1111, with emphasis on techniques of regression, analysis of variance, chi-square (categorical data), nonparametric inference, index numbers, time series and other topics used in economics and business. Prerequisite: Stat 1111 or equivalent.

STAT2112 is the second of the business statistics courses which builds upon basic statistical concepts covered in the previous introductory statistics courses such as STAT105, STAT1053 and STAT111. The course will review Chapters 2, 6, 7 & 8 (descriptive statistics, confidence interval estimate, and hypothesis testing) to ensure that students know the basic concepts and methods discussed in the prerequisite courses. The course will cover Chapter 9 (Design of Experiments and ANOVA), Chapter 10 (Categorical Data Analysis), Methods of Chapter 11 (Simple Linear Regression), Chapter 12 (Multiple Regression), Chapter 14 (Time Series Forecasting) and Chapter 15 (Nonparametric Statistics – Available on CD). Time Permitting
Chapter 13 (Methods for Quality Improvement: Statistical Process Control) will also be covered. An entire chapter may not be covered due to time constraints; only select sections and core topics may be covered, which will be announced in the class.

Students are responsible for all topics covered in the class and assigned readings. Statistical softwares be used for analysis and class projects. The first three or four class sessions will be used for revisiting and reviewing Chapters 2, 6, 7 and 8.

**COURSE PREREQUISITE**
Successful completion of at least one introductory statistics course, such as STAT1051, STAT1053, STAT1111 or equivalent is a prerequisite. First two or three classes will be devoted to a review of the prerequisite such as summarizing data, interpreting confidence intervals, hypothesis testing, p-values and standard tests.

**LEARNING OUTCOMES**
By completing this course, students will be able to do the following tasks:
1. Carry out and interpret the results of confidence interval estimates and hypothesis testing.
2. Carry out and interpret the results of basic statistical analysis, analysis of variance, chi-square analysis, simple and multiple regression, statistical quality control and time series forecasting.
3. Learn the basic application of statistical softwares (SPSS/SAS/Excel) for conducting these procedures
4. Learn the assumptions underlying the above-mentioned statistical procedures and know when each method is appropriate for the data analyze.

**AVERAGE MINIMUM AMOUNT OF LEARNING TIME EXPECTED PER WEEK**
This 3-credit course requires 2.5 hours of direct (in-class) instruction and a minimum of 7.5 hours of independent learning (out-of-class) hours per week.

**COURSE POLICIES**
- Quizzes and tests are in-class tests; there will be no take-home tests. Quizzes are closed-textbook and closed-note; tests are open-textbook.
- There will be no make-up exam (except for very special reasons) or extra-credit assignments.
- There will be no “curving” of final grade.
- Students must bring a calculator for quizzes and tests; sharing of calculators not allowed. Cell phones are not allowed during the quizzes and tests.
- 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.
- Incomplete: A grade of INCOMPLETE will ONLY be given to a student who is passing the course and cannot complete the course due to well documented circumstances beyond their control. University policies on teaching are available at [http://www.gwu.edu/~academic/Teaching/main.htm](http://www.gwu.edu/~academic/Teaching/main.htm)
- email: The instructor will try to respond to emails sent during normal business hours on Monday-Thursday and by Friday within 24 hours. Email sent at night will be considered to have arrived the following morning and email sent over the weekend will be considered as arriving on Monday morning.
- Feel free to call the instructor. If the instructor is not available please a message with your call-back number. Please be clear and slow.
• 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

• Religious Holidays: Students are allowed to take religious holidays off.

• 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 & GRADING

There will be four quizzes, four in-class tests and two projects applying statistical software.

**Grading Percentages:**

- Four in-class tests (15% x 4): 60%. These exams will be cumulative but will emphasize material covered since the previous exam
- Four Quizzes (5% x 4): 20%
- Four Projects (5% x 4): 20%
- There may be pop quizzes/other assignments for bonus points (TBA)

### EXAM SCHEDULE

Quiz and test dates: To be announced.

**Professor will post the dates of the quizzes and tests, and the due dates of the projects later on Blackboard. Test#4 will be on the Final Exam day; the date is determined the university.**

### 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%

### HOMEWORK

Specific homework problems will be assigned from each chapter. Must practice all the solved examples in the chapters sections covered in the class.

### 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: https://studentconduct.gwu.edu/academic-integrity

### 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 to establish eligibility and to coordinate reasonable accommodations. For additional information please refer to: http://gwired.gwu.edu/dss/ The DSS office is located in GWU’s Rome Hall, Suite 102, 801 22nd Street, NW, Washington, DC 20052.

**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 case of an emergency, follow the evacuation procedures for the building. After evacuation, seek shelter at a predetermined rendezvous location. An evacuation will be considered if the building we are in is affected or we must move to a location of greater safety. We will always evacuate if the fire alarm sounds. In the event of an evacuation, please gather your personal belongings quickly and proceed to the nearest exit.

**HOMEWORK**

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

**Chapters 2, 5, 6, 7 & 8 (Review)**
All the “Learning the Mechanics” problems and the other problems with answers.

**Chapter 9**
All the “Learning the Mechanics” problems and the other problems with answers.

**Chapter 10**
All the “Learning the Mechanics” problems and the other problems with answers.

**Chapter 11**
All the “Learning the Mechanics” problems and the other problems with answers.

**Chapter 12**
All the “Learning the Mechanics” problems and the other problems with answers.

**Chapter 13**
All the “Learning the Mechanics” problems and the other problems with answers.

**Chapter 14**
All the “Learning the Mechanics” problems and the other problems with answers.

**Chapter 15**
All the “Learning the Mechanics” problems and the other problems with answers.