

ECON 3406, section 04 – BUSINESS STATISTICS II – Fall 2015.
CRN: 80477. Meets: M, W 11:00am – 12:20pm, room: RCOB 1308.

Instructor: Salvador Lopez, Ph.D.

Email: slopez@westga.edu

UWG Tel: 678-839-4778

Office Hours: M, W: 8 - 9am, 1 - 2pm. T, Th: 9am – 12pm.

REQUIRED TEXT: Statistical Techniques in Business & Economics, 16th Edition. Authors: Lind, Marchal, Wathen. Buy the textbook and access to assignments using the “MH Campus” link in D2L.

COURSE DESCRIPTION: Course emphasis is on applications of statistics in business. Topics include:

- Review of important statistics concepts such as mean, median, variance, standard deviation, scatter plots, normal probability distribution, standard normal probability distribution, Z scores and Z table reading, sampling distribution of the mean, the central limit theorem, estimation and confidence intervals.
- Review and in-depth coverage of hypothesis testing.
- Two-sample tests of hypothesis, analysis of variance.
- Review and in-depth coverage of correlation and linear regression.
- Multiple regression analysis.

PREREQUISITES: MATH 1111 or MATH 1113, CISM 2201 and a 2.0 minimum GPA.

EXPECTED LEARNING OBJECTIVES

Students will:

- Use continuous probability distributions and sampling distributions in a variety of business applications. (LG2, LG3, LG6, LG12)
- Construct and interpret interval estimates (LG2)
- Perform hypothesis testing for one and two samples
- Estimate regression models, evaluate the results of regression models, and use the results for prediction and forecasting. (LG2, LG3, LG12)
- Use Microsoft Excel to generate descriptive statistics and perform regression and correlation analysis (LG2, LG3, LG12).

Note: A complete list of expected learning goals (LG) for the Economics Department can be found at the department web site (<http://www.westga.edu/econ/1718.php>).

ATTENDANCE AND CLICKERS: Attendance is not required, but it is strongly recommended. There will be in-class questions in every session, which will be used to verify attendance and participation. Students who do not attend class regularly will receive little consideration in regard to individual instruction, borderline grade decisions, etc. If you use your cell phone in class (calls, texts, internet), you will be considered absent and will receive a “0” grade participation. Classes will begin promptly at the scheduled time and a few clicker questions may be asked at the very beginning of each session. Cell phones cannot be used as calculators. Instead, you should bring a calculator to every class. A basic scientific or statistic calculator is recommended.

TESTS: During the semester, you will take four tests. The date and material for each test are listed below. Since notes and books will be allowed in every test, you will be responsible for bringing any necessary formulas and/or tables. However, electronic devices and communication with other students

will not be allowed. Test questions will be based on the concepts and exercises discussed, illustrated and solved during class, and questions and homework assigned on the textbook's website. Solving textbook exercises is highly recommended. Maximum time allowed for each test is one hour and 15 minutes. To every test, you are responsible for bringing a calculator and a No. 2 pencil. The instructor will provide a scantron for you, but not a pencil or a calculator. **No cell phones are allowed.** Weights assigned to the four tests are 15%, 20%, 20% and 20% respectively.

MAKE-UP POLICY: If you miss a test due to a verifiable and justifiable reason (medical, accident, etc.), you can take a make-up test on the closest Friday at 9:00 am. If you think you may have a valid excuse for not taking a test, contact your instructor as soon as possible (preferably before the test). Please keep in mind that email messages or phone calls are not valid excuses. Only medical notes, police reports, or similar, are valid excuses. Important: all excuses/reports must show specific dates and names. Make-up tests may not contain multiple-choice questions.

IN-CLASS QUESTIONS/EXERCISES: Every day of classes, you will be required to participate by solving problems or responding to questions related to current material. The average grade obtained (after dropping the lowest grade) will be assigned 5% of your final grade. For most questions, you are allowed to consult with classmates. However, some responses/answers may be required to be submitted individually.

Since the first day of classes, every absence, whether justified or not, will be recorded with a zero grade. If you are not present on the first day of classes, that will be your lowest grade. Remember: if you use your cell phone during class, you will be considered absent.

HOMEWORK: Before each test, you will be responsible for completing "homework" assignments, which are found at the textbook website. These consist of exercises based on material relevant to each test. Homework will be assigned for chapters 3, and 7-14. Chapters 3 and 7-9 for test 1, chapters 10 and 11 for test 2, chapters 12 and 13 for test 3 and chapter 14 for test 4. Grade weight: 10%.

LEARNSMART: The textbook website contains a section called "learnsmart", which consists of a series of questions, per chapter, that review the most relevant material. Every question includes references, videos and hints to help you achieve effective learning. You will get full credit if you just review, and try to respond, each question presented. It is your responsibility to ensure understanding of every question. Your grade in this assignment will be equal to the percent completed, per chapter. For further questions, please contact your instructor. Grade weight: 5%.

REGRESSION ASSIGNMENT: Based on the material learned in chapter 14, you will be assigned an Excel regression exercise due by 8am Sunday, December 7th, 2015. The instructions and specific exercise will be provided on Monday, 11/30/2015, the second week of Chapter 14 coverage. Grade weight: 5%.

CELL PHONES: As soon as class starts, all cell phones must be turned off and placed away from your desk inside your bags or pockets. **Cell phones cannot be used as calculators both during regular class and examinations.** If one day you have a special situation that requires you to leave your cell phone on, please let the instructor know in advance before class starts.

If you do not let the instructor know of a special situation (emergency of some sort) and you use your cell phone for private entertainment (internet surfing) or communication (calls, texts), your clicker grade

for that day will be zero. No warning may be given. To avoid misinterpretations, you should not place your cell phone, backpack, purse on top of your desk.

LAPTOPS: If you want to take notes using a personal computer, you must sit in the front row and should let the instructor know in advance.

CHEATING: Academic dishonesty on any exam or clicker activity (read “clicker instructions” below) will result in a zero on that exam, a note recording the incident on the student's permanent record and the student reported to Student Services for appropriate disciplinary action by the University. Students not familiar with what constitutes academic dishonesty or those unfamiliar with the appeal procedure regarding academic dishonesty should refer to the UWG Undergraduate Catalog.

GRADE DISTRIBUTION BY ACTIVITY

ACTIVITY/MATERIAL	DATE	WEIGHT
In-class (Clicker) questions	Every session	5%
Homework	Online (due by 8am the day of each test)	10%
Learnsmart	Online (due by 8am the day of each test)	5%
Regression Assignment	Due by 8am, 12/7	5%
Test 1 (chapters 3, 4, 7-9)	Wednesday, 9/9	15%
Test 2 (chapters 10 & 11)	Monday, 10/12	20%
Test 3 (chapters 12 & 13)	Wednesday, 11/11	20%
Test 4 (Chapter 14)	Monday, 12/7 (11am)	20%

DISRUPTIVE BEHAVIOR: Arriving late, leaving early, yawning loud, talking during lectures, receiving or sending text messages while in class, are some of the most common ways students may interrupt a class and encourage others to do the same. If you consistently show evidence of this behavior, the instructor will give you first a verbal warning. If the behavior continues, you may be dropped from the course with an F. **Cell phones must be turned off as soon as class starts.**

COURSE OUTLINE AND METHOD OF INSTRUCTION: Review of selected concepts from chapters 3, 4, 7, 8 and 9, review and complete coverage of chapters 10 and 13, and complete coverage of chapters 11, 12 and 14. The material will be explained and discussed using a lecture approach emphasizing participative problem-solving and online assignments. Power Point slides will be available at the book's website.

CLICKER INSTRUCTIONS:

At the beginning of the course, you will be assigned a clicker by the instructor. You are responsible for:

1. Remembering your clicker number, so you can pick it up every day from the clicker bag.
2. Carrying (at least) three AAA batteries to ensure a proper and continuous function of your clicker.
3. Not interrupting class if your clicker is not working properly (red light flashes) and you don't have any extra batteries.
4. Not using anybody else's clicker.

Important: unless authorized by your instructor, you should never use a clicker other than the one assigned to you. If you submit answers for an absent student, you will get an automatic zero on your clicker grade for that day and a warning for cheating.

Final Letter-Grade Assignment. No further adjustments will be made.

0 – 59.49: F

59.50 – 69.49: D

69.50 – 79.49: C

79.50 – 89.49: B

89.50 – 100: A

The grades shown above define what your instructor considers a grade being “close enough” to the next letter grade. Please do not ask for any further adjustment, especially if you have a low attendance. At the end of the semester, no extra credit or make-up work will be assigned to improve your grade.

THREE IMPORTANT TIPS TO BE A GOOD STUDENT:

- Attend classes and be punctual. After you graduate, that is going to be an essential requirement in almost any job. Do not plan on being responsible and respectful until some day in the future. You should start today.
- Make every class session a study session. Focus and pay attention. Participate, get involved, ask questions, and work every problem and every operation, no matter how small they are. Stay away from distractions: cell phones, sitting next to “buddies”, potential new girlfriend/boyfriend, windows, and so on.
- Study daily. If possible, at the same time and location. Assign a reasonable amount of time (30 - 40 minutes) and never miss it. Consistency will always take you very far into the path of success.



IMPORTANT DOCUMENT

Please carefully review the following information at this link:

http://www.westga.edu/assetsDept/vpaa/Common_Language_for_Course_Syllabi.pdf

It contains important material pertaining to your rights and responsibilities in this class. Because these statements are updated as federal, state, university, and accreditation standards change, you should review the information each semester.

TENTATIVE SCHEDULE FOR ECON 3406, FALL 2015. DEVIATIONS MAY OCCUR

M, 8/24	Syllabus, clicker assignment, Chapter 3. LO3-1: mean, median, mode, symmetric distribution, positive and negative skewness. Excel demo: exercise
W, 8/26	Chapter 3. LO3- 4: measures of dispersion: population and sample variance, standard deviation. LO3-5: Interpretation and uses of the standard deviation (empirical rule). Chapter 7. LO7-2: The normal probability distribution. LO7-3: The standard normal probability distribution, the empirical rule, Excel demo: exercise 14.
M, 8/31	Chapter 8. LO8-1: reasons to sample, four methods to sample a population LO8-2: sampling error LO8-3: sampling distribution of the sample mean LO8-4: the central limit theorem, standard error of the mean, finding Z value of X-bar when population standard deviation is known.
W, 9/2	Chapter 9. LO9-1: point estimate of a population mean LO9-2: confidence interval for a population mean (σ known), confidence interval for a population mean (σ unknown). LO9-3: Confidence interval for a population proportion
M, 9/7	No classes (Labor day holiday)
W, 9/9	Test 1 (Econ 3402 review). Rules: open notes/book. No electronic device allowed (laptop, cell phones, etc.). No communication with classmates.
M, 9/14	Chapter 10. LO10-1: What is a hypothesis? LO10-2: What is hypothesis testing? LO10-3: Six-step procedure for testing a hypothesis.
W, 9/16	Chapter 10. LO10-4: One-tailed and two-tailed tests of significance. LO10-5: Testing for a population mean when σ is known. A two-tailed test.
M, 9/21	Chapter 10. LO10-5: Testing for a population mean when σ is known: one-tailed test. LO10-6: p-value in hypothesis testing.
W, 9/23	Chapter 10. LO10-7: testing for a population mean when σ is unknown (t-student). LO10-8: type II error.
M, 9/28	Chapter 11. LO11-1: two-sample tests of hypothesis: independent samples.
W, 9/30	Chapter 11. LO11-2: comparing population means with unknown population standard deviations. Two-sample pooled test. Unequal population standard deviations.
M, 10/5	Chapter 11. LO11-3: two-sample tests of hypothesis: dependent samples. Paired t test.

W, 10/7	Chapter 11. LO11-4: Comparing dependent and independent samples.
M, 10/12	Test 2 (chapters 10 and 11). Rules: open notes/book. No electronic device allowed (laptop, cell phones, etc.). No communication with classmates.
W, 10/14	Chapter 12. LO12-1: Comparing two population variances. The F distribution.
M, 10/19	Chapter 12. LO12-2: ANOVA. The ANOVA test
W, 10/21	Chapter 12. LO12-3: Inferences about pairs of treatment means.
M, 10/26	Chapter 12. LO12-4: Two-way analysis of variance. LO12-5: Two-way ANOVA with interaction.
W, 10/28	Chapter 13. LO13-1: What is correlation analysis? LO13-2: The correlation coefficient.
M, 11/2	Chapter 13. LO13-3: Regression Analysis. Regression equation, least squares principle. LO13-4: Testing the significance of the slope.
W, 11/4	Chapter 13. LO13-5: Evaluating a regression equation's ability to predict. The standard error of estimate. The coefficient of determination.
M, 11/9	Chapter 13. LO13-6: Interval estimates of prediction. LO13-7: Transforming data.
W, 11/11	Test 3 (Chapters 12 & 13). Rules: open notes/book. No electronic device allowed (laptop, cell phones, etc.). No communication with classmates.
M, 11/16	Chapter 14. LO14-1: Multiple regression analysis. LO14-2: Evaluating a multiple regression equation.
W, 11/18	Chapter 14. LO14-3: Inferences in multiple linear regression. LO14-4: Evaluating the assumptions of multiple regression.
M, 11/30	Chapter 14. LO14-5: qualitative independent variables. LO14-6: regression models with interaction.
W, 12/2	Chapter 14. LO14-7: stepwise regression. LO14-8: review of multiple regression.
M, 12/7	Final exam (chapter 14). Rules: open notes/book. No electronic device allowed (laptop, cell phones, etc.). No communication with classmates. Multiple regression assignment due by 9:30am.