Business and Economic Statistics II - STAT2112

Time: Monday and Wednesday 9:35 - 10:50 a.m.
Room: Monroe Room 113
Instructor: Charles Fleming
Office Hours: Monday and Wednesday 9:00-9:30 a.m.

WWW: http://www.bhox.com
Grader: Mingze Zhang

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Office Hours: Wednesday 4:00-6:00 p.m.
in Rome Hall 768

Textbook: *Statistics for Business and Economics* (13^{th} edition) by James T. McClave, P. George Benson, and Terry Sincich **Supplies:** Calculator

Description: This is the second semester of a general survey in elementary statistics which will emphasize techniques of regression, chi-square (categorical data), nonparametric inference, index numbers, time series, decision analysis, and other topics used in economics and business. The lectures will be based on the second half of the McClave textbook. The prerequisite for STAT 2112 is STAT 1111 or its equivalent.

Grading: There will be five quizzes which will be closed-book and closed-notes. In addition to the quizzes, there will be three graded computer assignments, a take-home assignment, a pop quiz, a Mid-term Examination, and a Final Examination. Make-up examinations and make-up quizzes will be granted on the basis of a doctor's excuse or due to required attendance at a University sanctioned event. The course point structure and tentative schedule of exams are:

	Weight	Date
No Class		15 January
Quiz Average	25%	Five Quizzes
No Class		19 February
Computer Assignment Average	20%	Three Assignments
Mid-term Examination	20%	7 March
Spring Vacation		12-17 March
Take-home Assignment	10%	18 April
Pop Quiz	5%	Unannounced
Final Examination	20%	7-15 May

Learning Outcomes Students of STAT 2112 upon completion of the course will be able to

1. apply laws of probability

2. construct and interpret confidence intervals
3. evaluate evidence for and against hypotheses using statistical tests
4. find the least-squares equation for linear models and assess the validity of the model
5. conduct elementary analysis of data using SAS.

Average minimum amount of independent, out-of-class, learning expected per week: In a 15 week semester, including exam week, students are expected to spend a minimum of 100 minutes of out-of-class work for every credit hour of direct instruction. A 3-credit course should include a minimum of 5 hours (300 minutes) of outside of class independent learning per week.

Academic Integrity I personally support the GW Code of Academic Integrity which 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

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) The University Counseling Center (UCC), 202-994-5300, offers continuous 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, even in the case of a fire drill or false alarm, the class will be cancelled and everyone should leave the building.

STAT 2112

Topic	Quiz	Computer Assignment
Descriptive Statistics		
Lying with Statistics		
Histogram		
Correlation		
Central Limit Theorem	1	
Confidence Interval	2	1
Testing Hypotheses		
Hypothesis Test of Mean against Constant		
Paired Difference Test		
Hypothesis Test between Two Means	3	
Goodness-of-Fit		
M & M Experiment		
Contingency Table	4	
Linear Models		
Definition		
Estimation of Parameters		
Test Hypothesis that $\beta_1 = 0$	5	
More General Linear Models		
Matrix Notation		
Interaction Terms		
Estimation of Parameters		
Q-Q Plot and Diagnostics		
Interpretation of Output		
Multiple Means		2
Mid-term Examination		
Design of Experiment		
Factorial Design		
Replications		
One-Way ANOVA		
Two-Way ANOVA		
DOE Assignment		
Quality Control		
Chapter 13 in McClave Textbook		3
Design of Surveys		
Government Surveys and Questionnaires		
Take Home Assignment		
Possible Statistical Topics		
Predicted Demise of Facebook		
Thomas Herndon		
Philips Curve		
Social Security Trustees' Report		
Pictures of Multi-dimensional Data		
Final Examination		