

ACU COLLEGE OF BUSINESS ADMINISTRATION
COURSE SYLLABUS
IS 322.01: BUSINESS STATISTICS
MWF 9:00-9:50AM
SPRING 2012

Instructor:	Dr. Ryan Jessup Assistant Professor of Management College of Business Administration	Office Hours:	MW: 1:30-3:30; T: 9:30-11, 1:00-2:30; Or By Appointment
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*"To create a distinctively Christian environment in which
 excellent teaching, combined with scholarship,
promotes the intellectual, personal, and spiritual growth of business students,
 and educates them for Christian service and leadership
 throughout the world."*

The COBA Mission Statement

Course Description

Business Statistics presents a traditional survey of quantitative methods for collecting, managing, describing, analyzing, interpreting, and presenting business data and information. Topics include the organization and management of data, scales of measurement, sampling and surveying schemes, statistical graphics, descriptive statistical measures of central tendency and variability, special discrete and continuous probability distributions, elementary techniques of statistical estimation and inference (point estimates, confidence intervals, hypothesis tests, sample size determination), correlation, and Chi-square analysis of simple contingency tables. The course encompasses an investigation of the uses of statistical methods in various business settings and provides students with hands-on experience in using computer technology to summarize, analyze, and interpret actual business data sets.

Contribution of Course to Overall Business Perspective

Statistical methods and probabilistic evaluation are the fundamental building blocks for sound quantitative decision making in all business, industry, and government settings. In *Business Statistics*, students become familiar with the principles, methods, processes, and practice of statistical science in a diverse arena of business applications. They are exposed to various kinds of measurements (e.g., survey results, human performance indicators, economic indices), challenged to critically assess the value of information, and encouraged to test the validity of observations and apparent trends. In addition, the course serves as the foundation for broader training in applied quantitative and information sciences. It is a necessary prerequisite for individuals who plan to pursue careers in information systems, consulting, actuarial science, quality control, business and marketing research, and various aspects of financial and operations management.

Contribution of Course to Christian Service and Leadership

Numbers, data, and statistics are ever present in today's fast paced business environment. From the boardroom to the manufacturing line to the human resources office to the advertising agency to the annual report, business men and women are constantly bombarded with quantitative information of assorted quality, and they must be able to rapidly and authoritatively respond with appropriate decisions based on their ability to distinguish facts from fiction. Unfortunately, as often highlighted by the media, there are also countless ways and opportunities in business to distort numbers and statistics to make them appear more or less favorable than they really are. The focus of *Business Statistics* is to provide the student with the facilities necessary to discern the quality of quantitative information, to make appropriate and ethical choices and decisions based on such knowledge, and to act faithfully and responsibly on behalf of the organizations they serve.

Goals for Student Competency

In *Business Statistics*, you will learn many of the basic tools that are used in professional and educational contexts to collect, manage, analyze, interpret, and present data. You will develop an appreciation for how numbers such as counts, rates, and averages are generated, as well as a sense of how to qualify such measures in various contexts; and you will become familiar with the importance of variability in all business settings.

You will also learn how to:

- assemble appropriate information sources to obtain relevant data
- organize numerical information for effective decision making
- construct and interpret statistical graphs that are used to deliver quantitative information
- select the most appropriate quantitative tools to examine specific types and arrangements of data
- logically evaluate different business scenarios using quantitative techniques and measures
- think and reason from a statistical point of view
- conduct a statistical investigation or study, and prepare a report on the findings
- develop some basic skills in using Excel spreadsheet software to conduct statistical investigations

Format

Course material will be delivered through a mix of standard lecture presentations and computer demonstrations, individual reading and self-study exercises, daily homework assignments, and “hands on” learning and information dissemination.

Prerequisites

The prerequisite for this course is Math 130 (Finite Mathematics, or Business Math). You will be expected to be knowledgeable of the concepts of college algebra, functions, and discrete and conditional probability (including a basic understanding of random variables, probability distributions, and expected value). In addition, you need a working familiarity with personal computers, including operating system procedures, file creation and transfer, operation of Microsoft Excel and Microsoft Word, and experience in using the Internet (including email). You will further need to know how to operate your calculator, since calculator skills will not be taught in this course.

Course Requirements

You will be required to complete and turn in homework assignments and take three mid-semester exams plus a comprehensive final. There will also be multiple quizzes – many unannounced -- throughout the semester.

This course serves as the pre-requisite for other courses in ACU’s College of Business. If you are pursuing a degree in the College of Business, **you must earn a grade of C or better in order for the course to satisfy the prerequisite requirement.**

Homework Assignments

Homework will be assigned on a regular basis. These assignments will encompass traditional paper-and-pencil problem solving and computer-based problems. A student assistant may grade some portion of the homework.

Unless otherwise specified, homework assignments are due at the BEGINNING of class on the due date. **Late Assignments will not be accepted.** Further, unreadable or sloppily written assignments will not be accepted. Homework turned in late or not at all will be assigned a 0.

Exams and Quizzes

All exams will consist of questions requiring short answers (such as “true-false,” “multiple choice,” or “fill-in-the-blank”) to evaluate your general knowledge of the material, as well as more involved problems which are designed to test your ability to think, reason, and solve. In many cases you will have to consider a set of data, read and ponder a problem description, select and apply an appropriate solution, equation, formula, or technique, or otherwise “do something” to answer the questions. Where appropriate, you will be allowed, and expected, to

use a calculator or Megastat; and in some cases you may be required to show computations or justify algebraically how you got your answers.

Five quizzes will be given throughout the semester—some announced and some unannounced—using a short-answer format. Some quizzes will be taken as 2 person teams with both team members receiving the same grade.

The final exam will be given in the regular classroom on **Thursday December 15 at 2pm. No student can take the final exam earlier than the University-assigned date and time.**

Class Participation

You should be prepared at all times to participate in classroom discussion. From time to time you may be called upon to work problems for the class or to explain your homework answers. Creative thinking, insightful questions, and demonstrated enthusiasm for the material will be reflected in your final grade through the class participation component.

Grade Composition

Your grade will be computed on the following basis:

Activity	Value
Examination 1	20%
Examination 2	20%
Examination 3	20%
FINAL	20%
Quizzes	5%
Homework	10%
Participation	5%

Grading System

Letter Grade	Semester Combined Average
A	90 or above
B	80 – 89
C	70 – 79
D	60 – 69
F	Below 60

There is no pre-established quota of As, Bs, Cs, etc. for this class.

Attendance Policy

In business environments, the employees who are often absent from or tardy to work do not enjoy long-term employment, regular pay increases, or good professional reputations. In this class you will be learning to solve problems similar to those you will encounter in professional settings, and the consistency with which you attend class reflects your commitment to the training necessary to pursue a business career. **Because the pace of this course is quite rapid, you cannot expect to do well if you frequently miss class.**

If you plan to miss class to participate in a University-sponsored activity, you must provide your instructor a written notice signed by your sponsor seven (7) days in advance. These are approved absences that are not counted towards your absence accumulation. Absences due to illness with a doctor's signed excuse will also not be counted.

In any case, you will still be responsible for all notes and information missed as the result of your absence. Your instructor will not hand out course materials more than once, so you should plan to obtain these from your classmates. Homework assignments, as well as some of the class notes, will be available on Blackboard.

Classroom Management

In order to maintain decorum and to optimize the learning environment for all members of the class, certain classroom management policies must be adhered to:

- If you sleep in class you will be asked to leave.
- Disruptive behavior will not be tolerated. This includes playing games, writing email, or similar activities on the computer terminal during class periods. If you disrupt the class, you will be asked to leave and will be counted absent.

Academic Integrity

COBA Honor Code

► Objective

COBA faculty, staff and students will strive to proclaim in their lives competence, character and community.

In joining COBA, students, faculty, and staff covenant to abide by the following ethical principles.

► Competence

To lead and serve well requires competence. And to become competent requires diligence and hard work. We owe it to all who have prepared the way and who will follow in our footsteps, to be good stewards of opportunities and resources. Thus, in all you do: set priorities, seek excellence and professionalism in your work, satisfy requirements, and take responsibility for your learning and performance. You cannot build competence if you lie, cheat, steal, or tolerate those who do.

► Character

A reputation of good character is built slowly through testing, yet can be destroyed in an instant by compromise or careless work, just as it can through injustice. Guard your character; it is worth more than a grade or promotion. “A good name is more desirable than great riches; to be esteemed is better than silver or gold” (Proverbs 22:1). You cannot build character if you lie, cheat, steal, or tolerate those who do.

► Community

A spirit of fellowship and mutual encouragement holds each community member accountable. Accountability leads to a healthy community through adequate preparations for the tasks at hand, respectful truthfulness in all situations, and adding value to the tasks at hand. As a community, we must hold each other accountable to the principles of competence, character, and community. You cannot build community if you lie, cheat, steal, or tolerate those who do.

COBA supports ACU’s Academic Integrity Policy

(www.acu.edu/campusoffices/campuslife/acad_integrity.html). This important policy offers examples of academic infractions and a process for assigning consequences and voicing appeals. Ignorance of this policy is never an excuse. Individual instructors will define course specific definitions, however, in general you should avoid:

- 1) **Plagiarism** - Copying or even paraphrasing words or ideas from another source (including current or past students) without giving adequate credit.
- 2) **Lying** - Inventing data or sources or making false attributions about the origin of material or offering a deceptive reason for an absence or delay in the completion of academic work.
- 3) **Cheating** - Facilitating or participating in any process that circumvents the intent of any exam, test, quiz, paper, or assignment.

Any dishonest act observed or reported will be investigated and if proven, be reported in administrative offices and records, and may be subject to any or all of the following outcomes based on severity:

- 1) A zero for the assigned work
- 2) A failing grade for the course
- 3) Dismissal from the university

Text and Supplements

The following texts and classroom resources will be used in the course:

Text: Basic Statistics for Business & Economics (7th Edition) by Lind, Marchal & Wathen (McGraw Hill Irwin – 2008 ISBN: 978-0-07-340178-2)

Software: MegaStat for Excel version 10.0
(Note that a CD containing data files and the Megastat software accompanies the text. You must already have access to Excel. Both Excel and Megastat are loaded on all computers in the College of Business Computer Labs)

Calculator: You will need access to a good hand-held calculator—preferably one that provides scientific, statistical, and financial calculations. You must supply your own calculator.

Strategy for Success

Statistics is not a spectator sport! You should expect this class to be challenging and time-consuming. A lot of material will be covered in a short period. You will undoubtedly be confused at times; and at others you will be lost in the mathematical notation. To do well in this class, you must budget sufficient time to read, study, and complete the assignments. **Not all the material you will need to pass the course will be presented in class!** Do not be afraid to seek help if you need it. Good sources of help are friends and other students, paid tutors, and your instructor. The students who are most successful in this course are those who:

- are self-motivated and maintain a positive, success-driven attitude;
- do not miss class/lab or sleep in class/lab;
- are knowledgeable of the syllabus, course requirements, and instructor's expectations;
- consistently and thoroughly read their textbooks and consult other library materials;
- are well organized and take good notes;
- communicate with their instructor and seek help on a regular basis;
- attempt every assigned problem and turn in all assignments on time;
- actively participate in the class discussion; and,
- commit sufficient study resources to the course and **do not fall behind.**

Tentative Class Schedule

DATE	TOPICS/ACTIVITIES	DUE: READINGS/ASSIGNMENTS
Mon Jan 16	HOLIDAY: MLK JR. DAY	
Wed Jan 18	Syllabus, Intro to Stats	
Fri Jan 20	Frequency Distribution and Graphic Presentation (1)	Read Chapters 1 & 2
Mon Jan 23	Frequency Distribution and Graphic Presentation (2)	
Wed Jan 25	Numerical Measures (1)	Read Chapter 3
Fri Jan 27	Numerical Measures (2)	Homework 1
Mon Jan 30	Numerical Measures (3)	
Wed Feb 01	Numerical Measures (4)	
Fri Feb 03	Numerical Measures (5)	Homework 2
Mon Feb 06	Exploring Data (1)	Read Chapter 4
Wed Feb 08	Exploring Data (2)	
Fri Feb 10	Exploring Data (3)	Homework 3
Mon Feb 13	Exploring Data (4)	
Wed Feb 15	EXAM 1	
Fri Feb 17	Probability (1)	Read Chapter 5
Mon Feb 20	Probability (2)	
Wed Feb 22	Probability (3)	
Fri Feb 24	Probability (4)	Homework 4
Mon Feb 27	Discrete Distributions (1)	Read Chapter 6
Wed Feb 29	Discrete Distributions (2)	
Fri Mar 02	Discrete Distributions (3)	Homework 5
Mon Mar 05	Continuous Distributions (1)	Read Chapter 7
Wed Mar 07	Continuous Distributions (2)	
Fri Mar 09	EXAM 2	Homework 6
Mon Mar 12	HOLIDAY: SPRING BREAK	
Wed Mar 14	HOLIDAY: SPRING BREAK	
Fri Mar 16	HOLIDAY: SPRING BREAK	
Mon Mar 19	SAMPLING METHODS (1)	Read Chapters 8 & 9
Wed Mar 21	SAMPLING METHODS (2)	
Fri Mar 23	SAMPLING METHODS (3)	Homework 7
Mon Mar 26	SAMPLING METHODS (4)	
Wed Mar 28	One Sample Tests (1)	Read Chapter 10
Fri Mar 30	One Sample Tests (2)	Homework 8 [ADDED HW]
Mon Apr 02	One Sample Tests (3)	
Wed Apr 04	Two and more Sample Tests (1)	Read Chapter 11
Fri Apr 06	HOLIDAY: GOOD FRIDAY	
Mon Apr 09	Two and more Sample Tests (2)	Read Chapter 12
Wed Apr 11	Two and more Sample Tests (3)	
Fri Apr 13	Two and more Sample Tests (4)	Homework 9
Mon Apr 16	Two and more Sample Tests (5)	
Wed Apr 18	EXAM 3	
Fri Apr 20	Regression and Correlation (1)	Read Chapter 13
Mon Apr 23	Regression and Correlation (2)	
Wed Apr 25	Regression and Correlation (3)	Read Chapter 14
Fri Apr 27	Regression and Correlation (4)	Homework 10
Mon Apr 30	Regression and Correlation (5)	
Wed May 02	Chi-square Tests (1)	Read Chapter 15
Fri May 04	Chi-square Tests (2)	Homework 11
Wed May 09	COMPREHENSIVE FINAL EXAM: 8-10am	

Note: Certain events may necessitate the changing of this schedule; the most likely changes will be in the timing of events, due to class progress or other unexpected events.