

BUAL 3600 BUSINESS ANALYTICS II

Instructor: Pei Xu pei.xu@auburn.edu

Semester: Fall 2014

Classroom: Lowder 129

Class Time: MWF 8:00 am - 8:50 am

Office: 420 Lowder bldg

Office Hours: MW 1:00 pm - 2:00 pm; others by appt.

COURSE DESCRIPTION & OBJECTIVES:

Many organizations today face a significant data explosion problem. Firms are drowning in data but starved for knowledge. This course teaches practical analytical skills in business including statistical inference, classification analysis, predictive modeling, forecasting and introduction to data mining.

After completion of this course, you should be able to:

- Understand the importance of data-driven business decisions.
- Apply statistical inferential procedures to aid business decisions.
- Build regression models for estimation and prediction in business.
- Understand the basics of forecasting/predictive modeling
- Understand basic quality control techniques
- Learn the basics of business decision models that incorporate risk.

COURSE MATERIALS:

1. Textbook

Business Analytics: A custom published text edition of Sharpe, Deveau, and Velleman's Business Statistics, Third Custom Edition, ISBN (Text & Student Access Kit), Pearson 2014; ISBN 978-1-269-86494-7.

2. Selected readings from Journal and Newspaper articles; selected videos.

ELECTRONIC RESOURCE:

Canvas: Lectures/homework assignments/handouts etc. will be posted on Canvas. It is extremely important to check Canvas and email regularly to stay informed about the class.

Analytics Software: Microsoft Excel will be used in this course.

GRADING:

The final grade will comprise

• Exam 1	100
• Exam 2	100
• Final Exam	150
• Homework	200
• Attendance & quizzes	50

Numerical scores will be converted to letter grades as follows:

- A = 540–600
- B = 480–539
- C = 420–479
- D = 360–419
- F = 0–359

POP QUIZZES:

To encourage student preparedness, attendance, attention, and participation, a total of 6 concept quizzes will be given during the semester, each marked on a scale of 10, with a guaranteed minimum of 5 awarded for merely being present. Of the 6 quizzes, **only the best 5 will count**, i.e., one will be treated as "byes". There will be no "make-up" quizzes, for any reason. Those quizzes may cover the previous class lecture, the assigned readings, something we have just completed discussing in class, etc..

EXAMS:

Two in-class exams and one comprehensive final exam will be given during the semester. Exams, which will be multiple choice format, will cover material in the assigned readings, homework, and lecture. **Students should bring a blue scan sheet, #2 pencil, eraser and student ID to the exams.** Please refer to the calendar for exam dates.

Make up exams: In the event that a student misses an exam and provides a **University approved excuse** in accordance with the following guidelines, the student will be given the opportunity to make up the missed exam. Students must notify the instructor prior to the test and turn in their excuse to the instructor on the first day upon returning to class. Lack of preparation for an exam is not a valid excuse and students should not be tempted to "fake" a doctor's excuse due to lack of preparation. The penalty for this is severe and could affect you for the rest of your career.

All **AU approved excuses** must be turned in by the **first class day** after the missed day.

HOMEWORK ASSIGNMENTS:

There will be eight homework assignments through the semester, each marked on a scale of 25. Details for the assignments will be announced in class. All assignments must be submitted on the specified date and time; **no late assignments** will be accepted. All homework is due at the beginning of class and not in between or after. **ALL HOMEWORKS MUST BE STAPLED.** Also, assignments must be submitted in 8.5" X 11" white paper. Homework can be handwritten or typed but clearly legible. The instructor will post homework solutions after the submission.

	Chapters Covered	Due Date
1	Chapter 10	W, Sep 3
2	Chapter 11&12	W, Sep 10
3	Chapter 13	W, Sep 17
4	Chapter 14	W, Oct 8
5	Chapter 15&16	W, Oct 22
6	Chapter 17&18	F, Oct 31
7	Chapter 19	F, Nov 14
8	Chapter 23	M, Dec 1

COMMUNICATION:

I will use your Auburn University e-mail address (userid@auburn.edu) for course communication. It is your responsibility to contact the Information Technology Help Desk to have this address forward mail to the e-mail address that you regularly check.

ACADEMIC HONESTY:

All portions of the Auburn University student academic honesty code (Title XII) found in the AU Office of Provost website will apply to university courses. All academic honesty violations or alleged violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee.

CLASS PROCEDURES:

- Turn off all wireless communications devices in class. Do not make or receive calls during class. Further, making or receiving calls during an exam will be viewed as an Academic Honesty violation.
- The instructor has the discretion to modify course content and assignment/test dates.

SPECIAL ACCOMMODATIONS DUE TO DISABILITIES:

Students who need special accommodations, as provided for by the American with Disabilities Act, should make an appointment as soon as possible with the faculty member to discuss their Accommodation Memo. It is essential that the faculty member be aware of necessary accommodations at the beginning of the course. The student must bring a copy of his/her Accommodation Letter and an Instructor Verification Form to the meeting. If the student does not have these forms but needs special accommodations, he/she should contact the Program for Students with Disabilities, 1288 Haley Center, 334-844-2096 (V/TT).

SCHEDULE:

Please read each chapter prior to the date on which it is covered. Test dates are fixed, but the chapter coverage dates and chapters covered on each test are subject to change.

Week	Date	Topics
1	Aug 18, 20,22	Syllabus; Review 2600 (Chapter 7, 9: Normal distribution & Sampling distributions)
2	Aug 25, 27, 29	Chapter 10: Hypotheses testing about proportions
3	Sep 1, 3, 5	Chapter 11: Confidence Intervals & Hypotheses testing for means
4	Sep 8, 10,12	Chapter 12: More about Tests and Intervals; Two types of errors Chapter 13: Two-Sample t-test
5	Sep 15, 17, 19	Chapter 13: Confidence Interval for difference between two means
Sep 22, Monday		Exam 1 (Chapter 10-13)
6	Sep 24, 26	Chapter 14: Goodness-of-Fit test; Chi-Square test for homogeneity
7	Sep 29, Oct 1, 3	Chapter 14: Chi-Square test for independence
8	Oct 6, 8, 10	Chapter 15: Simple Linear Regression
9	Oct 13, 15, 17	Chapter 16: Residuals; Prediction
10	Oct 20, 22, 24	Chapter 17: Multiple Regression
11	Oct 27, 29, 31	Chapter 18: Building Regression Models
12	Nov 3	Catch up and Review
Nov 5, Wednesday		Exam 2 (Chapter 14-18)
12	Nov 7	Chapter 19: Time Series Analysis
13	Nov 10, 12, 14	Chapter 19: Time Series Analysis ; Chapter 23: Decision Making and Risk
14	Nov 17, 19, 21	Chapter 23: Decision Making and Risk
15	Thanksgiving	
16	Dec 1, 3, 5	Catch up and Review
Dec 8, 8:00 a.m. – 10:30 a.m		Final Exam (Cumulative)

Note: No class on Sep 1: *Labor Day*; Oct 17: *Fall Break*