STATISTICAL METHODS IN BUSINESS

Fall 2019 Term

- Session: 33:136:185:09.
- Class: Thursday, 6:40pm – 9:40pm.
- Classroom: BRR, Room 5073.
- Instructor: Yuan Qu.
- E-mail: yuan.qu@rutgers.edu
- Office hours – New Brunswick: Thursday, 4:00 pm – 5:00 pm, by request.
- Office hours – Newark: Wednesday, 4:00 pm – 5:00 pm, 1057A.

Course Objectives

Students will be introduced to basic statistical methods, so that they would be able to design an experiment, analyze observations and make reasonable predictions and decisions about the business events.

After taking this course students will learn:

- Analysis of variance for completely randomized experiment design and the factorial design of experiments
- linear regression analysis, including the logistic regression model and translating nonlinear regression models into the linear regression model, and the best possible linear regression model design for a given data set
- time-series analysis for predicting future event based on the historical data
- chi-square goodness-of-fit test for independence and how close a model fits into reality.

Required Textbook

`Basic Business Statistics: Concepts and Applications` , by M. L. Berenson, D. M. Levine, K. A. Szabat, D. Stephan, Pearson, 14th Edition (2017).

Grade

The course grade will be based on 4 homeworks, 1 mid-term examinations, and 1 cumulative final examination,

with the following weights:

- Homework: 40%
- Midterm examinations: 25%
- Final examination: 35%

Letter Grades:

- A = From 90 to 100
- B+ = From 85 to 89.99
- B = From 80 to 84.99
- C+ = From 75 to 79.99
- C = From 60 to 74.99
- D = From 50 to 59.99
- F = From 0 to 49.99.

Responsibilities:

- Cheating in any form will not be accepted (no plagiarism) and its consequence will be an “F” grade.
- A well documented emergency is the valid excuse to take a make-up examination, only for the midterm or final exam.
- There will be no form of work for extra credit, so that everyone will be judged according to a common criterion.
- Regular attendance is required.
- All sources of noise such as mobile phones, music players, etc. should be turned off before entering the classroom.
- A calculator that performs basic operations (square root, logarithm, etc.) is necessary for homework assignments, class exercises, and exams. Excel software complements the course.
- All students are responsible for locating, reading, and abiding by the University Policy on Academic Integrity for Undergraduate and Graduate Students, which is available on-line at integrity.

Tentative Calendar:

Note: The described procedures and the calendar for this course are subject to change in the event of extenuating circumstances.

School begins: 09/03/2019.

- 09/05: Introduction and Applications
- 09/12: Review Data, Variable and Basic Statistics

- 09/19: Hypothesis Test & ANOVA
- 09/26: ANOVA & Linear Regression
- 10/03: Linear Regression
- 10/10: Linear Regression Analysis
- 10/17: Linear Regression Model Design & Review
- 10/24: **Midterm Exam**
- 10/31: Logistic Regression
- 11/07: Time Series
- 11/14: Chi-square Test
- 11/21: Relational Analysis & AHP
- 11/26: Intro to Data Mining (Thanksgiving schedule)
- 12/05: Review

School ends: 12/11/2019.

Final Exam: 12/19/2019: 8:00 PM - 11:00 PM (Maybe a typo in system)

The 26th of November 2019 follows a Thursday Schedule.

The 27th of November 2019 follows a Friday Schedule.

Thanksgiving Recess: From 9. 28. 2019 to 12.1. 2019.

Reading Days (No Classes): 12.12. 2019 and 12.13. 2019.