BANA7038

Data Analysis Methods

Thursday 6:00PM - 9:50PM, Lindner Hall 2250 2020 Spring, First Half

Instructor:	Tianhai Zu	
	Office:	3329-5 Lindner Hall
	Office Hours:	5:00-6:00pm Thursday @ 3303 Lindner Hall
	Email:	zuti@mail.uc.edu
	Web Page:	https://uc.instructure.com/courses/1255407
	-	https://zzz1990771.github.io/uc-bana7038/index.html

Prerequisites:

1. You must have completed at least one statistics course at undergraduate or graduate level (e.g., introduction to statistics) with the minimum grade of C.

2. You must have an academic program in Carl H. Lindner College of Business.

3. You must have an academic program with the following credit level: G

4. You must have completed BANA6043 with the minimum grade of C.

Textbooks:

 Introduction to Linear Regression Analysis (5th Edition), by Douglas C. Montgomery, Elizabeth A Peck, G. Geoffrey Vining, Wiley Series in Probability and Statistics, 2012.
Applied Linear Regression Models (4th Edition), by Michael Kutner, Christopher Nachtsheim, John Neter, McGraw-Hill Company, 2004.

3. A (Very) Short Introduction to R

(https://cran.r-project.org/doc/contrib/Torfs+Brauer-Short-R-Intro.pdf).

4. An Introduction to R (<u>https://cran.r-project.org/doc/manuals/R-intro.pdf</u>).

5. R Reference Card v1 (https://cran.r-project.org/doc/contrib/Short-refcard.pdf)

6. R Reference Card v2 (<u>https://cran.r-project.org/doc/contrib/Baggott-refcard-v2.pdf</u>).

7. R Markdown Cheat Sheet:

(<u>https://www.rstudio.com/wp-content/uploads/2015/02/rmarkdown-cheatsheet.pdf</u>) 8. RStudio hotkeys:

(https://support.rstudio.com/hc/en-us/articles/200711853-Keyboard-Shortcuts) 9. R Markdown Basics: (http://rmarkdown.rstudio.com/authoring basics.html)

7. R Markdown Basies. (<u>http://markdown.istudio.com/addio.n</u>

Computing Resources:

We will use R and RStudio to analyze data. You can access R in the second floor computer lab (215 and 202). In addition, we will use R markdown and knitr to generate reports. (R: https://www.r-project.org/)

(RStudio: https://www.rstudio.com/)

(R markdown: http://rmarkdown.rstudio.com/)

(knitr: http://yihui.name/knitr/)

Grading:	
Homework (individual)	15%
Exam (individual)	40%
Final project (group)	40%
Participation, attendance, class exercises	5%

Submitting Homework, Midterm and Final:

1. Late homework will not be accepted.

2. All submissions are through "SafeAssign" on Canopy Canvas. SafeAssign compares the submitted assignment with various databases. SaftAssign then generates a score of similarity of the submitted assignment.

Withdrawal Policy:

You may withdraw from the class until the official deadline.

Tentative Schedule:

List of Topics: Introduction to Analytics Exploratory Data Analysis Simple Linear Regression: Basic Concept, Modeling and Estimation R programming, knitr. Simple Linear Regression: Statistical Inference and Diagnostics Multiple Linear Regression Polynomial Regression Variable Selection Logistic Regression

Attendance:

Attendance and participation in class is critical to understanding the material. I will be covering material not in the book. Class notes are important for these topics. Please arrive on time and be prepared to participate in various in-class activities.

Laptop:

Please bring your laptop to the classroom. We will analyze data during the classes and complete the in class exercises. Cell phones should absolutely be switched off during classes. Online chatting, watching videos and browsing the internet and etc. are prohibited.

Academic Integrity:

Exam and homework are to be the sole work of each student. Anyone cheating or assisting another during an exam or finishing homework will be given a 0 for that part and possibly a grade of F for the class. College procedures will be followed and the graduate dean will be notified. If warranted, additional action will be taken. http://www.uc.edu/conduct/Code of Conduct.html

Syllabus Revision Policy:

The instructor reserves the right to revise the syllabus.