Ground Rules and Schedule

Applied Regression Analysis

STATISTICS 308

INSTRUCTOR: Dr. Michael Perry

CONTACT INFO:

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Office: Loyola Hall 105

OFFICE HOURS:

MO/WE 12:30 - 3:30 PM

TU/TH 2:30 - 3:30 PM

FR - By Appt.

Other hours by appointment. I will try to accommodate you if you ask for help.

COURSE DESCRIPTION: Applied Regression Analysis provides students with a thorough introduction to applied regression methodology. The concept of simple linear regression will be reviewed, and multiple linear regression, transformations, indicator variables, multicollinearity, diagnostics, model building, polynomial regression, logistic regression, nonparametric regression and time series analysis will be discussed. The course will focus on applications such as those from biometry and biostatistics (clinical trials, HIV studies, etc.), sports, engineering, agriculture and environmental science. Students are required to analyze real-life datasets using the R statistical software, although no previous programming experience is assumed.

TEXTBOOK: Applied Regression Analysis and Other Multivariable Methods 5th Edition - Kleinbaum, Kupper, Nizam, Rosenberg

Additional Resources

https://newonlinecourses.science.psu.edu/stat462/node/77/

SimpleR by John Verzani. I will upload the pdf of this to SAKAI.

Download RStudio (or R) to your personal laptop/tablet (www.r-project.org).

GRADING POLICY:

A [100 , 93]; A- (93 ,90]

B+ (90, 88]; B (88,83] B - (83, 80]

C+ (80 ,78], C (78, 73] C – (73, 70]

D+ (70,67] D (67, 60];

F – Below 60

Note these are standard interval notation.

Grade calculation

Homework 15%

3 In class Exams 14% each

2 Papers 18%

Final Exam 25%

Homework must be submitted on time to receive full credit. There will be a 5% penalty for each day late. While you may discuss homework ideas with classmates, the coding and analysis should be your own work.

CHEATING: Cheating is unacceptable in this class. You are expected to complete any assignment not designated as a group project on your own. Anyone caught cheating will not be permitted to withdraw and will receive an F for the course. Additionally, a statement of cheating will be placed in your permanent file.

IMPORTANT DATES:

1/20 - MLK Day, no classes

1/21 - Last Day to Withdraw without a W

3/2-3/7 – Spring Break, no classes

3/23 - Last Day to Withdraw with a W

4/10-4/13 - Easter Break, no classes

5/2 - Final Exam, 4:00 - 3:00 PM

Please see the following link for the university calendar

www.luc.edu/academics/schedules

Date	Topic	Chapter

13-Jan	Intro to R, Basic Stats using R, Hypothesis Testing	Ch 3
15-Jan	Intro to R, Basic Stats using R, Hypothesis Testing	Ch 3
17-Jan	Hypothesis Testing	Ch 3
20-Jan	Martin Luther King, Jr. Day - No Class	
22-Jan	Hypothesis Testing	Ch 3
24-Jan	Purpose of Regression, Straight Line Regression	Ch 5
27-Jan	Purpose of Regression, Straight Line Regression	Ch 5
29-Jan	Purpose of Regression, Straight Line Regression	Ch 5
31-Jan	Inferences about slope and intercept, predictions from regression, regression in R	Ch 5
3-Feb	Inferences about slope and intercept, predictions from regression, regression in R	Ch 5
5-Feb	Correlation Coefficient and Coefficient of Determination	Ch 6
7-Feb	Correlation Coefficient and Coefficient of Determination	Ch 6
10-Feb	Testing Equality of r, ANOVA Tables for Regression	6, 7
12-Feb	Review Test 1	
14-Feb	Test 1	
17-Feb	Regression Diagnostics	Ch 14
19-Feb	Regression Diagnostics	Ch 14
21-Feb	Transformations	Ch 14
24-Feb	Transformations	Ch 14
26-Feb	Multiple Regression	Ch 8
28-Feb	Matrices and Regression expressed in matrix form	Appendix B
2-Mar	Spring Break - No Class	
4-Mar	Spring Break - No Class	
6-Mar	Spring Break - No Class	
9-Mar	Statistical Inference of Multiple Regression	Ch 9

11-Mar	Statistical Inference of Multiple Regression	Ch 9
13-Mar	Statistical Inference of Multiple Regression/ Missing Data	Ch 9
16-Mar	Correlations in Multiple Regression	Ch 10
18-Mar	Review	
20-Mar	Test 2	
23-Mar	Interaction Terms	Ch 11
25-Mar	Dummy Variables	Ch 12
27-Mar	Multiple Regression Diagnostics	Ch 14
30-Mar	Polynomial Regression	Ch 15
1-Apr	Model Building & Selection Process for Regression	Ch 16
3-Apr	Selection Process for Regression	Ch 16
6-Apr	Case Study	Ch 16
8-Apr	Case Study	Ch 16
10-Apr	No Class - Easter Holiday	
13-Apr	No Class - Easter Holiday	
15-Apr	Review Test 3	
17-Apr	Test 3	
20-Apr	Logistic Regression	Ch 22
22-Apr	Logistic Regression	Ch 22
24-Apr	Logistic Regression/ Review for Final Exam	Ch 22
2-May	Final Exam 1:00 PM - 3:00 PM	