Week 9: Learning Objectives and Activity (06.05, 07.02, 07.06)

DATES OF CLASS MEETINGS

Tuesday, Mar 6: Thursday, Mar 8: Friday, Mar 9

OVERVIEW

In this week, we will learn how to find whether a linear regression curve is adequate. We will use four criteria that have to be met for a linear regression model to be adequate.

LEARNING OBJECTIVES

After reading the modules of this week, you should be able to:

Chapter 06.05 Adequacy of Linear Regression

- · find whether a linear regression model is adequate through four criteria
- apply the criterion of visual inspection of plot and data
- · check the criterion of the standard error of estimate
- calculate the standard error of estimate
- calculate scaled residuals
- · check the criterion of the coefficient of determination
- · calculate the coefficient of determination
- · calculate the correlation coefficient
- · relate slope of the regression line to the sign of the correlation coefficient
- · check if the assumption of random errors is met

PRE-TUESDAY CLASS

Adaptive Lesson

Do this graded activity by Tuesday, March 6, 2018, 11:30 am. You can go through the adaptive lesson as many times as you want. The lesson has videos, text, and questions that show up as needed. The highest grade is counted.

 <u>Chapter 06.05 Pre-Class Adequacy of Regression Models</u> (https://usflearn.instructure.com/courses/1284689/assignments/5654555)

Textbook

These are suggested textbook pages you can read for pre-class activity

 Chapter 06.05 Adequacy of Regression Models - (Pages 374-379 from Customized Book, Pages 472-477 from Abridged Book)

More Examples

These are suggested if you want to see more examples before or while taking the online quizzes. Unlike other chapters, these questions are NOT in the textbook.

Multiple Choice Examples Solved: Chapter 06.05 Adequacy of Regression Models
 (http://nm.mathforcollege.com/mcquizzes/06reg/quiz_06reg_adequacy_solution.pdf)

TUESDAY CLASS AND AFTER

Textbook

These are required textbook pages for the course.

• Chapter 06.05 - Adequacy of Regression Models - (Pages 374-384 from Customized Book, Pages 472-482 from Abridged Book)

Conceptual questions and free-response questions will be distributed in class.

Presentation

<u>mws gen reg ppt adequacy adaptive.pdf</u> (https://usflearn.instructure.com/courses/1284689/files/68248775/download?wrap=1) (https://usflearn.instructure.com/courses/1284689/files/68248775/download?wrap=1)

Videos

Dangers of mixing causality with correlation - throw away your participation trophies
 <u>YOUTUBE (https://www.youtube.com/watch?v=8B271L3NtAw)</u>



(https://www.youtube.com/watch?v=8B271L3NtAw)

- (as shown in class)

PRE-UPCOMING TUESDAY CLASS

Week Next: Spring Break

<u>See Week 10: Learning Objectives and Activities</u> (https://usflearn.instructure.com/courses/1284689/pages/week-10-learning-objectives-and-activity-07-dot-02-07-dot-06-07-dot-05)

FRIDAY CLASS

We will introduce the topic of integration thru reviewing the concept of sum of rectangles (accumulation function) and show applications. See this handout given in class.clicker_quiz_07int_usf_nopics_adaptive.pdf
(https://usflearn.instructure.com/courses/1284689/files/68248764/download?wrap=1)
(https://usflearn.instructure.com/courses/1284689/files/68248764/download?wrap=1)