Palestine Polytechnic University

Faculty of Applied Sciences

4517 - Regression Analysis
First semester 2019-2020

Course Name	:	(4517) Regression Analysis.
Prerequisites	:	Mathematical Statistics and Linear Algebra
Class Schedule	:	Sun. Tues. Thur. 8:00-8:50, Room B+411.
Instructor	:	**Name:** Monjed H. Samuh
		E-mail: monjedsamuh@ppu.edu
		Website: http://staff.ppu.edu/monjedsamuh
Office	:	B+503.
Office Hours	:	Sun. Tues. Thur. 10:00-11:50.
	:	or by appointment (via email).

Textbook   Kutner, M., Nachtsheim, C., Neter, J., Li, W. (2004), Applied Linear Statistical Models, 5th Edition. McGraw-Hill/Irwin.

Recommended Texts

1. Montgomery, D. C., Peck, E. A., Vining, G. G. (2012), Introduction to Linear Regression Analysis, 5th edition. New York: John Wiley & Sons.

2. Weisberg, S. (2005), Applied Linear Regression, 3rd Edition. New York: John Wiley & Sons.

Course Description   This course is aimed to introduce students to other methods of making inference about a population through finding a relation between the variable of interest (dependent variable) and other related variables (independent variables).

Intended Learning Outcomes   After the completion of this course, students should be able to:

1. Understand simple and multiple linear regression and how to apply it;

2. Fit a linear regression model to a set of data using the computer;

3. Understand and interpret computer output;

4. Carry out regression analysis in matrix form;

5. Make inference about the parameters of interest.

6. Check the adequacy of the model and the satisfaction of the assumptions.

Software Package   Use **SPSS**.

Course Outline and Calendar

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Chapters/Topics	HOURS
Linear Regression with One Predictor Variable	6
Inferences in Regression Analysis	6
Diagnostics and Remedial Measures	3
Simultaneous Inferences	3
Matrix Approach to Simple Linear Regression Analysis	3
Multiple Regression I	6
Multiple Regression II	6
Selection of Predictor Variables	3
Diagnostics	3
Remedial Measures and Validation	3
Qualitative Predictor Variables	3

Course Policies

- Please do the reading from the sections to be covered before coming to class each day. Your instructor will be planning class activities assuming you have done the reading.

- **Homework**: There will be two types of homework assignments.

    1. **Mini Homework**: these are problems which arise while lecturing. I will assign a mini homework almost every class day.

    2. **Major Homework**: these are set of problems assigned weekly.

- You may collaborate on homework, but you must write your submitted work in your own words. All steps are required, this includes showing calculations, derivations, and proofs.

- You have to devote to this class several hours per week of concentrated attention to understand the subject enough so that standard problems become routine. If you think that coming to class and reading the examples while also doing something else is enough, you're in for an unpleasant surprise on the exams.

- Attending classes is compulsory; according to the University regulations, a student who misses more than 6 lectures will be prevented from entering the final exam.

- In the event that a student has to miss a class, he is responsible to get caught up with the materials covered and homework assigned.

- No make-up tests will be hold in any circumstance, any student with accepted excuse will be given the grade of the final transferred to appropriate weight. Make-up of the final test will follow the university regulations.

- All students are expected to be in the classroom on time. Being late will be treated as being absent.

- It is the **student's responsibility to observe the academic calendar for important dates**.

- It is the **student's responsibility to be knowledgeable about the rules and regulations that govern your study at the university**.

- I assume, the students come to class to learn, I come to class to teach.

    - We will be respectful of everyone in class.

    - Mobiles should be turned off before the beginning of each class, no exceptions.

    - There will be no talking in class, except to ask instructor questions or share comments with the entire class. Talking is disruptive to the class and disrespectful to the Instructor.

    - There will be no texting, reading, eating, etc., while in class.

- Cheating will be dealt with according to the University rules.

- Wastah is the thing that the Instructor hates the most!. Definitely, No grade will be changed because of Wastah.

Teaching Methods

- Explaining concepts and applications through lectures using white-board.

- Group discussions and solving problems.

- Problems and exercises will be assigned from the text on each section at the time of discussing the section.

Grade Distribution

- Your final grade will depend on the following components with these proportions:

    - **Assignments and Quizzes** (10%): Quizzes may not be announced in advance.

    - **Mini-Project** (10%).

    - **First Exam** (20%). 7th Week: Oct. 15, 2019 (Tuesday).

    - **Second Exam** (20%). 12th Week: Nov. 19, 2019 (Tuesday).

        * If the exam is not held for any reason (urgent circumstances), it will be immediately postponed to the next regular class.

    - **Final Exam** (40%): Comprehensive.

- You need to achieve at least 60% in order to pass the course.