ECO 204 (Sec - 7), SUMMER 2025

Statistics for Business and Economics - II

EAST WEST UNIVERSITY

Faculty: Shaikh Tanvir Hossain (STH) : tanvir.hossain@ewubd.edu

Teaching Assistant: Habiba Afroz **■**: 2023-1-30-013@std.ewubd.edu

 Schedule:
 MW - 4.50 PM - 6.20 PM

 Room:
 Mondays - C.Lab - 534

Wednesdays - 336

§. Office Hours:

Sundays and Thursday 4.00 PM to 6.00 PM (Room - 344). It's preferable to come during this time! However if you are struggling and need help, then please let me know. Habiba has different office hours, please contact her to know the details.

§. Communication:

The Google Classroom code is - pksobtby. But we will also heavily use Discord Server for better and easy communication, you can find the details in the classroom! Please join Discord Server for the course.

§. Course Description:

This is a continuation of the course ECO104. The students will be introduced to **Inferential Statistics**, and the core topics are:

- 1. Point and Interval Estimation of Mean and Proportion (one sample and two sample problems)
- 2. Hypothesis Testing of Mean and Proportion (one sample and two sample problems)
- 3. Simple and Multiple Linear Regression Model, Estimation and Testing.
- 4. Basic Time Series Analysis
- 5. Goodness of Fit test and some Non-Parametric Tests (e.g., sign test and rank test), if time permits!
- 6. Analysis of Variance Techniques.

The course follows a balanced approach between theory and practice. Students will learn the concepts and also apply them using Excel or \mathbf{Q}

§. Using Excel or **Q**

You can do the complete course using only Excel. But previously some students showed some interest to learn \mathbf{Q} programming and did all problem sets and exams in \mathbf{Q} , so I will show some stuffs using \mathbf{Q} . If you are a Business student, learning \mathbf{Q} might be a plus given that now we are living in AI era. If you are an Economics student then you should put some serious efforts to learn \mathbf{Q} , and this might be very beneficial in your research career! I plan to record some video lectures for \mathbf{Q} learners. But again learning \mathbf{Q} is optional.

§. Prerequisite Courses:

ECO101 and ECO104 offered at the East West University.

§. Textbooks / Notes:

There will be a somewhat detailed lecture slides, and you should definitely read that first. In addition, I recommend to use any of the following books for exercises and practice problems.

- 1. Anderson, Sweeney, Williams, Camm, Cochran, Fry and Ohlmann (2020)
- 2. Newbold, Carlson and Thorne (2020)

Following books are a bit advanced at this level, but nevertheless these are also excellent references. In particular if you are an Economics students, you should look into Wooldridge (2019).

- DeGroot and Schervish (2012)
- Casella and Berger (2002)
- Wooldridge (2019)

§. Marks Distribution

Midterm 1	20%
Midterm 2	20%
Final	30%
Quiz	15%
Assignment	5%
Homework	5%
Lab Assignment	5%

§. Dates and Calendar

I will share this in the Discord Server as we proceed with the course.

§. Problem Sets, Quizzes and Lab Project

- **Problem Sets:** There will be some problem sets, please submit them on time. The problem sets will be posted in the Google Classroom, and you can submit them there as well.
- Quizzes: In total there will be 3 quizzes, I will take the average of best 2.
- Lab Project: Lastly, there will be a Lab Project. We will talk about the details later in class.

§. Participation Points

Class participation has 3 points as bonus points, however to be eligible for participation points, you must attend 85% of the lectures and respond to the questions I will ask in the class.

§. Grading Scheme:

Check EWU grading policy. I will follow the standard grading policy.

§. Harassment and Respect Policy

Our university is committed to providing a safe and friendly environment for everyone. Harassment or discrimination based on race, color, religion, gender, ethnicity, or any other personal characteristic is strictly prohibited. All students are expected to treat each other with respect and dignity. If I observe any behavior that violates these standards, I will report it to the university authorities for prompt action.

§. Lastly.....

Please try to be punctual at class. Regular attendance is important, the course is relatively fast-paced, and missing a class can be a big loss. You are expected to maintain highest level of *academic honesty*, this means, you should perform all academic activities without any form cheating, lying, stealing, plagiarism, receiving unauthorized assistance or using any source of information that is prohibited to use. Finally there might be minor changes in the outline or plan because of unexpected events, but if this happens you will be informed in the class as soon as possible.

§. References:

- Anderson, D. R., Sweeney, D. J., Williams, T. A., Camm, J. D., Cochran, J. J., Fry, M. J. and Ohlmann, J. W. (2020), *Statistics for Business and Economics*, 14th edn, Cengage, Boston, MA.
- Casella, G. and Berger, R. L. (2002), *Statistical Inference*, 2nd edn, Thomson Learning, Australia; Pacific Grove, CA.
- DeGroot, M. H. and Schervish, M. J. (2012), Probability and Statistics, 4th edn, Addison-Wesley, Boston.
- Newbold, P., Carlson, W. L. and Thorne, B. M. (2020), *Statistics for Business and Economics*, 9th edn, Pearson, Harlow, England.
- Wooldridge, J. M. (2019), Introductory econometrics: A modern approach, 7th edn, Cengage learning.