MATH240 Introduction to Probability and Statistics for Engineers

Course Project – Statistical Applications

The goal of this assignment is for you to find/gather data and practice applying your knowledge on statistical analysis and hypothesis testing using a dataset. Remember that most questions in the textbook come from similar studies. What we would like to see is for you to create/collect a dataset to work with for your assignment in a topic you are interested in. You should try to conduct your own experiment/survey/data collection for occurrences of events you come across daily. Creativity will be rewarded for the assignment. Alternatively, you may use any reasonable source you find (published articles accessed via library or internet, magazines, newspaper articles, data from a company you interned for etc.) with the condition that you state your sources as references, and that we can access the source for validation. You may also use one of the following resources:

- Google Dataset Search
  https://datasetsearch.research.google.com

- Türkiye İstatistik Kurumu (TÜİK)
  http://www.tuik.gov.tr/

- Pearson StatCrunch
  https://www.statcrunch.com

You should submit a 1-2 page report (no need for cover page) through Moodle. Make sure to include the following:

- Your name
- Date
- Course code and title
- Appropriate title for assignment
- Introductory paragraph (2-3 sentences that explains what you did for the assignment)
- Data collection process (include details so that we can follow your process)
- Analysis
  - Calculate mean and standard deviation for your dataset.
  - Make a graphical presentation of your data using box and whisker plot.
  - Formulate and test a hypothesis that you come up with.
- Discussion (1 paragraph)
  - Interpret the outcome and comment on factors that may affect results in your experiment.