Elementary Statistics

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1. Course Description

This is an introductory course on statistical concepts, probability theory, and methods to interpret statistical data.

For the beginners of statistics, this course introduces basics of statistics such as probability distribution, mean value, standard deviation, and correlation.

2. Course Objectives

1. Understand basic perspectives and knowledge in statistics and probability theory.
2. Acquire basic principles to calculate and summarize data.
3. Acquire basic skills to interpret and discuss statistical data.

3. Grading Policy

Your overall grade in this class will be decided based on the following:
  - midterm exam: 20%
  - term-end exam: 30%
  - homework assignments and short paper: 50%

4. Textbook and Reference

Textbook
No textbook is required.

5. Requirements(Assignments)

To prepare each class, read the handouts up-loaded to LMS in advance and check technical terms and formulas.

After each class, review the class and do homework assignments.

6. Note

This course uses LMS. Handouts will be up-loaded to LMS in advance of the class. Students must print out and bring handouts to the class by themselves.

This course assumes no prior knowledge of differential and integral calculus but requires fundamental knowledge of high school algebra.

In this course, students are required to bring a calculator with square root button to use on exams and quizzes.

7. Schedule

[1]   introduction

[2]   history of probability theory and statistics

[3]   classifications of data and levels of measurement

[4]   probability distribution

[5]   mean, median, mode

[6]   midterm exam

[7]   permutations, combinations and probability

[8]   probability and expected value

[9]   standard deviation

[10]   tables and graphs

[11]   correlation and causation

[12]   correlation coefficient

[13]   practical training for calculation of correlation coefficient using computer

[14]   presentation of a short paper

[15]   term-end exam