

DOANE COLLEGE  
Business 215  
Business Statistics

Instructor: Dr. Suzy Carter

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Objectives:

1. Define statistical analysis and understand the concepts of statistical analysis. Define and give examples of various data types
2. Organize data in meaningful ways for analysis. Summarize data using measures of central tendency (mean, median, mode) and
3. Dispersion (standard deviation, variance)
4. Apply the concepts of simple and general probability
5. Understand the principles of data collection
  - a. Sampling methods
  - b. Bias
  - c. Correction of bias
6. Understand, estimate and interpret confidence intervals
7. Employ various methods to test the quality of data.
8. Understand and interpret the concepts of correlation, and regression

Course Requirements

Students will complete the following:

|            |           |                  |
|------------|-----------|------------------|
| Exams 6    |           | 160 points       |
| 1. Exam 1  | 20 points |                  |
| 2. Exam 2  | 30 points |                  |
| 3. Exam 3  | 30 points |                  |
| 4. Exam 4  | 40 points |                  |
| 5. Exam 5  | 20 points |                  |
| 6. Exam 6  | 20 points |                  |
| Homework 5 |           | 50 points        |
| Project    |           | <u>30 points</u> |
| Total      |           | 240 points       |

Calculator with square root function required

Attendance

Attendance is not required but strongly recommended. Excessive absences will be reported to Dean.

Practices concerning Americans with Disabilities, Student Code of conduct and Academic Integrity will follow those outlined in the Doane catalog and student handbook.

Project DUE Class 8

Each student will

1. Collect ten observations
2. Describe
  - a. what the data is
  - b. how data was collected
3. Do exploratory analysis using a stem plot
4. Find the mean, median and mode
5. Find the standard deviation
6. Find 68% and 99.7% confidence intervals
7. Find 80% and 99% confidence intervals using t tables
8. Conduct hypothesis test

| Tuesdays        | Exam   | Topic                        |  |
|-----------------|--------|------------------------------|--|
| March 18        | None   | Introduction                 |  |
| March 25        | Exam 1 | Measures of center           |  |
| April 1         | Exam 2 | Measures of dispersion       |  |
| April 8         | Exam 3 | Probability Take home exam 4 |  |
| <b>April 15</b> |        | <b>NO CLASS</b>              |  |
| April 22        |        | Confidence                   |  |
| April 29        | Exam 5 | Tests                        |  |
| May 6           | Exam 6 | Grades/evaluations           |  |
|                 |        |                              |  |