Dongseo University  
Division of Business Administration  
Business Statistics

Course Description (Goals & Objectives):
This course aims to provide students with an understanding of inferential statistics (making valid generalizations from sample data), including multiple regression. At the end of the course, students should be able to: 1) Critically analyze data sets and apply the tools of statistics to data in order to improve decision making; 2) Use statistical software and a scientific calculator to perform statistical computations (enter data, generate descriptive statistics and graphs, estimate population parameters, perform hypothesis tests).

Course Outline:

- **Week 1**  
  Descriptive statistics (average, standard deviation, density histogram, approximating a density histogram by the normal curve).

- **Week 2**  
  Probability distributions (chance processes, expected value, chance errors, standard error)

- **Week 3**  
  Sampling distributions: the sum of draws, the expected value and standard error of the sum of draws, the central limit theorem. Sampling distribution of the sample percentage Sampling distribution of the sample average

- **Week 4**  
  Inference: confidence intervals.

- **Week 5**  
  Inference: hypothesis tests.

- **Week 6**  
  Inference: hypothesis tests for small samples

- **Week 7**  
  Inference: hypothesis tests on two averages.

- **Week 8**  
  Mid-Term Week  
  Experimental design and analysis of variance
• **Week 9**
  Inference: hypothesis tests on two averages / one-sided alternative hypothesis;

• **Week 10**
  Measures of linear relationship: correlation.

• **Week 11**
  Measures of linear relationship: the regression line.

• **Week 12**
  Multiple regression

• **Week 13**
  Multiple regression

• **Week 14**
  Inference for regression

• **Week 15**
  The Chi-Square test

• **Week 16**  Final Week

**Textbook(s):**
Quantitative Methods for Investment Analysis by Richard A. DeFusco (Author),

**Class Website:**

**Course Assignments & Grading:**

- **Exams:** Midterm 30%  Final  30%
- **Quizzes:** 10%
- **Assignments:** 20%
- **Class Attendance, preparedness, and Participation:** 10%