Instructor: Professor Hong K. Sohn, BEcon MBA MSc Ph.D.
Office Hours: Tuesdays 2-3pm
Office: Saunders Hall 542 (Econ Dept)
Email: hongsohn@hawaii.edu
Credits: 3
Class times: TTh 12:00-1:15pm
Lecture Room: Bilger 335

COURSE DESCRIPTION

The course introduces students to the basic elements of statistics; descriptive statistics, probability, inference, distributions, hypothesis testing, regression, and correlation analysis.

COURSE GOALS

Students will be introduced to statistical concepts and methods. Students will be able to describe important features of information and proceed with generalization and prediction within the economic decision-making process.

COURSE OBJECTIVES

To meet the course goals, students will be able to

- Demonstrate understanding of the basic elements of statistics including Descriptive statistics Probability Inference Distributions Hypothesis testing Regression Correlation analysis
- Demonstrate ability to implement basic elements of statistics in generalization and prediction
COURSE REQUIREMENTS

As future professionals, students are required to attend class regularly, arrive on time, listen attentively, actively participate in discussions, and submit assignments on time.

Students are required to comply with the academic honesty policies and procedures of the university.

ASSESSMENT CRITERIA

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<tr>
<th>Assessment</th>
<th>Percentage</th>
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<tr>
<td>Class Test 1 (Sept 27) (Chapters 1 - 5)</td>
<td>20%</td>
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<tr>
<td>Class Test 2 (Oct 25) (Chapters 5 - 9)</td>
<td>20%</td>
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<tr>
<td>Final exam (Dec 13) (Chapters 8 - 17)</td>
<td>40%</td>
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<td>Class attendance</td>
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<td>Assignments</td>
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COURSE SCHEDULE

Students are required to complete the assigned readings before the class dates on the schedule, and review after lectures.

Week 1 (Aug 23/25) Chapter 1
Definition, Descriptive Statistics, Statistical Inference, Nature of Data

Week 2 (Aug 30/Sept 1) Chapter 2
Stem-and-Leaf Displays, Frequency Distribution, Histogram, Frequency Polygon

Week 3 (Sept 6/8) Chapter 3
Populations & Samples, Descriptive Measures—Mean, Median, Mode
Description of Grouped Data, Summations Exercise

Week 4 (Sept 13/15) Chapter 4
The Range, Variance, Standard Deviation, Chebyshev’s Theorem,
Standard Units, Coefficient of Variation, Pearsonian Coefficient of Skewness

Week 5 (Sept 20/22) Chapter 5
Counting, Permutations, Combinations, Binomial Coefficients,
Frequency Interpretation, Law of Large Numbers

Week 6 (Sept 27/29) Class Test 1 (Sept 27) (Chapters 1-5) Chapter 6
Sample Spaces, Venn Diagrams, Probability Rules, Conditional Probability
Week 7 (Oct 4/6) Chapter 7
Mathematical Expectation, Operations of Expected Value, Payoff Table, Opportunity Loss Table, Expected Opportunity Loss (EOL)

Week 8 (Oct 11/13) Chapter 8

Week 9 (Oct 18/20) Chapter 9
The Normal Distribution, Z- Scores, Applications of Normal Distribution, The Normal Approximation to the Binomial Distribution

Week 10 (Oct 25/27) **Class Test 2 (Oct 25)(Chapters 5-9)** Chapter 10
Random Sampling, Sample Designs, Sampling Distribution of Sample Mean, The Standard Error of the Mean, Finite Population Correction Factor

Week 11 (Nov 1/3) Chapter 10 (cont’d) & Chapter 11
The Central Limit Theorem, Z and t Statistics, Chi-square Statistic, Confidence Interval for True Mean (μ), Estimation of Proportions

Week 12 (Nov 8/10) Chapter 12
Test of Hypotheses, Type I Error, Type II Error, Tests Concerning Means, Test Concerning Difference between Means, Z and t tests

Week 13 (Nov 15/17) Chapter 13
Chi-Square Test, Tests concerning Two Standard Deviations, F-Statistic

Week 14 (Nov 22/24) Chapter 14 (Thanksgiving Day (Nov 24))
Tests concerning Proportions, The Analysis of a Contingency (r x c) Table, Chi-Square Test of (r x c) Table, Goodness of Fit Test

Week 15 (Nov 29/Dec 1) Chapter 15 & Chapter 16
Analysis of Variance, ANOVA Table, Regression Analysis

Week 16 (Dec 6/8) Chapter 17 (Last week of Instruction)
Confidence Limits for Regression Coefficients, Limits of Prediction, Linear Correlation Coefficient, Correlation Analysis

Week 17 (Dec 13/15) **Final Exam (Dec 13, Tues) (Exam Period)** (Chapters 8 – 17)