**CALIFORNIA STATE UNIVERSITY, HAYWARD**

**DEPARTMENT OF STATISTICS**

**STATISTICS 3502/6304**

**Winter 2015**

**Lecture:** TTh 2-3:50 ScN 221

**Instructor:** Prof. Eric A. Suess **Office:** ScN 229 **Phone:** 885-3879 **e-mail:** eric.suess@csueastbay.edu

**Office Hours:** TTh 1:00-2:00 or by appointment

**My Website:** <http://www.sci.csueastbay.edu/~esuess/classes/Statistics_3502/sta3502.htm>

**Required Text:**

* Ott and Longnecker, Statistical Methods and Data Analysis 6th ed, Brooks/Cole CENGAGE Learning, 2010.

**Material To Be Covered:**

* Basic Statistical Concepts: population, sample, variability, distribution, statistical reasoning
* Types of Data: quantitative, qualitative
* Descriptive Statistics: graphical methods (pie chart, bar graph, stem-plot, histogram, scatterplots) and numerical methods (mean, median, mode, percentiles, quantiles, variance, standard deviation, IQR)
* Basic Probability Concepts: sample space, outcome, event, probability, mutually exclusive, additive rule, independence, multiplication rule
* Probability Models: discrete models (binomial), continuous models (normal, t, exponential), expectation, variance
* Sampling and Sampling Distributions: simple random sampling (SRS), Central Limit Theorem (distribution of the sample mean)
* Statistical Inference: confidence level, confidence intervals, statistical significance, hypothesis tests
* Linear Regression: correlation, least-squares regression line, hypothesis testing for model significance
* Chi-square Tests: Test of Homogeneity, Test of Independence
* Analysis of Variance: Comparison of many group means

**Homework:** A list will also be on the website.

**Quizzes and Exams:** Two short quiz, two midterms will be given and the final. You are expected to bring a calculator with you to all exams and your Student I.D. for identification.

**Grading:**

* Homework 10%
* Quizzes 5%
* Projects 10%
* Midterm I 25%
* Midterm II 25%
* Final 25%

**Policy on Make-up Exams:** You are expected to take the quizzes and exams at the scheduled times. In case of genuine emergency, illness or hardship, for which you can present written documentation I may agree to arrange for a make-up exam. Make-up exams must always be arranged BEFORE the regular exam is given and always take place AFTER the regular exam. Quizzes *may not* be made up!