

CALIFORNIA STATE UNIVERSITY, SACRAMENTO
Department of Mathematics and Statistics

SYLLABUS

Stat 103: Intermediate Statistics

Prerequisites: Stat 1 or Stat 50. Credit for this course may not be applied toward a mathematics major.

Descriptions: **Intermediate Statistics.** Review of hypothesis testing -- one sample. Hypothesis testing -- two sample, variance. Regression and correlation. Analysis of variance including two-way. Analysis of categorical data. Non-parametric tests, goodness of fit, and tests for randomness.

OUTLINE:

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| I. | Review of one sample statistical inference | 2 Weeks |
| | a. Mean - population variance known | |
| | b. Mean - population variance unknown | |
| | c. Variance | |
| II. | Two sample inferences | 3 Weeks |
| | a. Difference between means - large sample | |
| | b. Difference between means - small sample | |
| | c. Paired comparisons | |
| | d. Comparison of binomial proportion | |
| | e. Comparison of variances | |
| III. | Regression and correlation | 3 Weeks |
| | a. Least squares regression line | |
| | b. Properties of least square estimators hypothesis tests | |
| | c. Sample correlation | |
| | d. Tests for population correlation coefficient | |
| | e. Tests of model | |
| IV. | Analysis of categorical data | 1 Week |
| | a. Goodness of fit | |
| | b. Contingency tables | |
| V. | Analysis of variance | 2 Weeks |
| | a. One way - completely randomized design | |
| | b. Two way | |
| | Additive, nonadditive | |
| VI. | Selected nonparametric tests | 2 Weeks |