# Stat 103 : Intermediate Statistics

California State University, Sacramento · Department of Mathematics & Statistics

Credit for this course may not be applied toward a matheamtics major.

## Catalog Description

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. Credit for this course may not be applied toward a mathematics major. **Graded**: Graded Student.   **Units**: 3.0.

## Prerequisites

Stat 50 or instructor consent.

## Topics

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

    C. Additive, nonadditive

VI. Selected nonparametric tests (2 Weeks)