

STATISTICS (STAT)

STAT S200 *Elementary Statistics

3 credits (3+0)

GER. Introduction to concepts and applications of elementary statistical methods. Topics include sampling and data analysis, descriptive statistics, elementary probability, probability and sampling distributions, confidence intervals, hypothesis testing, correlation, and simple linear regression. Recommended: MATH S151 (C or better).

Prerequisite: MATH S105 (B or better) or placement test.

STAT S373 Probability and Statistics

3 credits (3+0)

A calculus-based course emphasizing theory and applications. Topics include probability, continuous and discrete random variables and their probability distributions, expectation, moment generating functions, joint distributions, functions of random variables, estimations, and an introduction to the study of the power and significance of hypothesis tests.

Prerequisites: MATH S252, C (2.00) or higher.

STAT S400 Statistical Computing with R

2 credits (0+4)

An in-depth introduction to the fundamentals of programming with R, the free open-sourced statistical software. Emphasizes development of skills in preparing user-defined functions and code via topics introduced in traditional elementary statistics courses. Includes descriptive statistics, graphical and quantitative methods for exploring univariate and bivariate data through parametric and nonparametric methods.

Prerequisite: MATH S151 and STAT S200 with C (2.00) or higher, and upper division standing.

STAT S401 Regression and Analysis of Variance

4 credits (3+3)

A study of multiple regression including multiple and partial correlation, the extra sum of squares principle, indicator variables, and model selection techniques. Analysis of variance and covariance for multi-factor studies in completely random and randomized complete block designs, multiple comparisons and orthogonal contrasts. STAT S400 recommended.

Prerequisite: MATH S151 and STAT S200 or equivalent with C (2.00) or higher, and upper division standing.