

Statistics

Statistics courses are also listed under a variety of departmental prefixes. See ANTH 280; BA 332; PSYC 241, PSYC 478, PSYC 588.

LOWER DIVISION

STAT 106. Introduction to Statistics for the Health Sciences (3) FS. Descriptive methods, elementary probability, binomial and normal distributions, confidence intervals, test of hypothesis, regression, ANOVA; computer methods using Minitab. [Prereq: math remediation completed or not required. Weekly: 2 hrs lect, 2 hrs lab. GE.]

STAT 108. Elementary Statistics (4) FS. Probability, relative frequency; measure of central tendency, variation, correlation; binomial and normal distributions; testing of hypotheses and estimation; linear regression. [Prereq: math remediation completed or not required. Weekly: 3 hrs lect, 2 hrs activ. GE.]

STAT 109. Introductory Biostatistics (4). Descriptive statistics, probability, random variables, discrete and continuous distributions, confidence intervals, contingency tests, regression and correlation, tests of hypothesis, analysis of variance. Emphasis: methods and applications used in the biological and natural resource sciences. [Prereq: MATH 115 (may be concurrent with IA) or equivalent, or IA. Weekly: 3 hrs lect, 2 hrs activ. GE.]

STAT 280. Selected Topics in Statistics (1-3). Topics accessible to lower division students. [Prereq: IA. Lect/lab as appropriate. Rep.]

UPPER DIVISION

STAT 323. Probability & Statistics (4) F. Probability axioms; probability distributions of discrete/continuous random variables; concepts of marginal and conditional probability. Mathematical expectation; moments and generating functions. Data analysis. Emphasis: mathematical theory. [Prereq: MATH 205 or MATH 210, and MATH 241 (C). Weekly: 3 hrs lect, 2 hrs activ.]

STAT 333. Linear Regression Models/ANOVA (4). Linear regression, analysis of variance, and other linear models applied to experimental and observational studies. Course emphasizes model formulation, assumptions, selection, and interpretation in both hypothesis-testing and descriptive contexts. [Prereq: MATH 115 or equivalent, and STAT 108 or STAT 109. Weekly: 3 hrs lect, 2 hrs activ.]

STAT 404. Multivariate Statistics (4). Explore and model multivariate systems. Matrix algebra, correlation matrices, principal components, common factors, canonical correlation. Use and interpret computer-assisted analysis. [Prereq: STAT 108 or STAT 109. Weekly: 3 hrs lect, 2 hrs activ.]

STAT 406. Sampling Design & Analysis (4) F. Randomized sample surveys are used for natural resource monitoring, election polling, plant abundance estimation, and other purposes. This course presents approaches to sample selection and to inference/estimation from sample data. [Prereq: STAT 109 or equivalent. Weekly: 3 hrs lect, 2 hrs activ.]

STAT 409. Experimental Design & Analysis (4). Analysis of variance and nonparametric alternatives. Designs: nested, randomized complete block, factorial, and fractional factorial. Covariance designs. [Prereq: STAT 108 or STAT 109 or equivalent. Weekly: 3 hrs lect, 2 hrs activ.]

STAT 410. Modern Statistical Modeling (4). Contemporary methods in statistics that provide tools for analyzing complex datasets: generalized linear modeling, model selection strategies, Bayesian statistical analysis and inference, mixed-effects modeling, and ARIMA time series analysis. [Prereq: STAT 108 or STAT 109. Weekly: 3 hrs lect, 2 hrs activ.]

STAT 480. Selected Topics in Statistics (1-3). [Prereq: IA. Lect/lab as appropriate. Rep.]

STAT 499. Directed Study (.5-3). Directed reading and conferences on special topics. [Prereq: IA. Rep.]

GRADUATE

STAT 504. Multivariate Statistics (4). Meets jointly with STAT 404. Students in STAT 504 are expected to carry out an additional project and report findings. [Prereq: STAT 109 or equivalent; matrix algebra highly recommended. Weekly: 3 hrs lect, 2 hrs activ.]

STAT 506. Sampling Design & Analysis (4) F. Meets jointly with STAT 406. Students in STAT 506 expected to carry out additional independent sampling project and report findings in class. [Prereq: STAT 109 or equivalent. Weekly: 3 hrs lect, 2 hrs lab.]

STAT 509. Experimental Design & Analysis (4). Meets jointly with STAT 409. Students in STAT 509 are expected to carry out an additional project and report findings. [Prereq: STAT 109. Weekly: 3 hrs lect, 2 hrs activ.]

STAT 510. Modern Statistical Modeling (4). Meets jointly with STAT 410. Students in STAT 510 are expected to carry out an additional project and report findings. [Prereq: STAT 109 or STAT 108. Weekly: 3 hrs lect, 2 hrs activ.]

STAT 580. Selected Topics in Statistics (1-3). [Prereq: IA. Lect/lab as appropriate. Rep.]

STAT 630. Data Collection & Analysis (4). Practicum in data collection and analysis. Design and implement data collection and analysis. [Recommended preparation: probability and statistics, programming experience, grad standing.]

STAT 699. Independent Study (.5-3). Directed reading and conferences in special topics. [Prereq: IA. Rep.]