

Statistics

SUPPORT

Note that credit earned for support courses does not count toward unit requirements for graduation, GE, or major.

STAT 8. Support for Elementary Statistics (1). Integrated support for development of quantitative reasoning in Elementary Statistics. [Coreq: STAT 108i.]

LOWER DIVISION

Prerequisites: Most statistics courses have prerequisites. Thus, to be eligible to enroll in a statistics course, a student must have received a grade of C- or higher in the HSU courses listed as prerequisites. In some lower division courses, a student may also satisfy the prerequisites by having an appropriate placement category or taking an HSU mathematics placement exam.

Statistics courses are also under other departmental prefixes. See BA 332, or PSYC 241, 478, 588.

STAT 108. Elementary Statistics (3). Probability, relative frequency; measure of central tendency, variation, correlation; binomial and normal distributions; testing of hypotheses and estimation; linear regression. [Prereq: Math placement category I, II or III. Weekly: 3 hrs lect, 2 hrs activ. B-LD.]

STAT 108i. Elementary Statistics with Integrated Support (3). Introductory statistics with integrated support to aid comprehension. Data collection, descriptive statistics, bivariate data, probability, probability distributions. Foundational concepts of confidence intervals and hypothesis tests. Use and abuse of statistics. [Open to students in Math placement category III or IV. Coreq: STAT 8. B-LD.]

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 101 or MATH 101i or MATH 102 (may be concurrent with IA) or equivalent, or IA. Weekly: 3 hrs lect, 2 hrs activ. B-LD.]

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). 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 210 or MATH 215, 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 101 or MATH 101i or MATH 102 or equivalent, and STAT 108 or STAT 108i 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 108i or STAT 109. Weekly: 3 hrs lect, 2 hrs activ.]

STAT 406. Sampling Design & Analysis (4). 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 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 108i 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). 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 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 or STAT 108i. 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. [Rec: probability and statistics, programming experience, grad standing. Weekly: 3 hrs lect, 3 hrs lab.]

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