

SPANISH

835*. **Spanish American Literature before Modernismo**
Spring of even-numbered years. 3(3-0)

Major authors and movements from the colonial period and nineteenth century to modernismo. Topic varies.
QA: SPN 850

840*. **Contemporary Spanish American Literature**
Fall of odd-numbered years. 3(3-0)

Poetry, drama, prose, fiction and essay from modernismo to the present. Topic varies.
QA: SPN 852

890*. **Independent Study**
Fall, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 3 credits.
R: Approval of the Department

Special projects, directed reading, and research arranged by an individual graduate student and a faculty member in areas supplementing regular course offerings.
QA: SPN 860

891*. **Special Topics in Spanish**
Fall, Spring, Summer. 3(03-00) May reenroll for a maximum of 6 credits.
R: Approval of the Department

Special topics supplementing regular course offerings proposed by faculty on a group study basis for graduate students.

999*. **Doctoral Dissertation Research**
Fall, Spring, Summer. 1 to 24 credits. May reenroll for a maximum of 24 credits.
R: Approval of the Department

QA: SPN 999

STATISTICS AND PROBABILITY STT

200. **Statistical Methods**
Fall, Spring, Summer. 3(4-0)
P: MTH 110 or MTH 116 or designated score on mathematics placement test. <F9
R: Not open to students with credit in STT 351.
Descriptive statistics, elementary probability and combinatorics. The binomial distribution. Random variables, their expectations and variances. Central Limit Theorem, estimation and inference. Simple tests based on the binomial, normal, t, chi-square an
QP: STT 315 STT 421 QA: STT 201

201. **Statistical Methods**
Fall, Spring, Summer. 4(3-2)
P: MTH 110 or MTH 116 or designated score on mathematics placement test.
R: Not open to students with credit in STT 200 or STT 315 or STT 331 or STT 351 or STT 421.
Probability and statistics with computer applications. Data analysis, probability models, random variables, tests of hypotheses, confidence intervals, simple linear regression.
QP: STT 315 STT 421

315. **Introduction to Probability and Statistics for Business**
Fall, Spring, Summer. 3(4-0)
P: MTH 120 or MTH 124 or MTH 132.
R: Not open to students with credit in STT 200 or STT 201 or STT 331 or STT 351 or STT 421.
Probability and statistics for business majors. Data analysis, probability models, random variables, single population confidence intervals and tests of hypotheses with business applications.
QP: MTH 111

331. **Statistics for Scientists**
Fall, Spring. 3(3-0)
P: MTH 120 or MTH 124 or MTH 132 or LBS 101. R: Open only to students in College of Natural Science. Not open to students with credit in STT 351 or STT 441.
Calculus based course in probability and statistics. Probability models, random variables, tests of hypotheses, confidence intervals with applications in sciences.
QP: LBS 113 ORMTH 113

351. **Probability and Statistics for Engineers**
Fall, Spring, Summer. 3(3-0)
P: MTH 234. R: Not open to students with credit in STT 200.
A calculus based course in probability and statistics for engineering students. Probability models, random variables, tests of hypotheses, and confidence intervals with engineering applications.
QA: STT 351

421*. **Statistics I**
Fall, Spring, Summer. 3(03-00)
P: MTH 110 or MTH 116. R: Not open to students with credit in STT 200 or STT 201 or STT 231 or STT 315 or STT 351.
Basic probability, random variables, and common distributions. Estimation and tests for one-, two-, and paired sample problems. Introduction to simple linear regression and correlation, 1-way ANOVA.
QP: MTH 108 QA: STT 421 STT 422

422*. **Statistics II**
Fall, Spring, Summer. 3(03-00)
P: STT 421. R: Not open to students with credit in STT 464.
Goodness of fit and other non-parametric methods. Linear models including multiple regression and ANOVA for simple experimental designs.
QP: STT 421 QA: STT 422 STT 423

430*. **Introduction to Probability and Statistics**
Fall. 3(3-0)
P: MTH 126 or MTH 133. R: Open only to Economics and Agricultural Economics majors. Not open to students with credit in STT 231 or STT 351 or STT 441 or STT 421.
Calculus based probability and statistics with applications. Discrete and continuous random variables and their expectations. Point and interval estimation, tests of hypotheses, simple linear regression.
QP: MTH 113 ORMTH 123ORMTH 480

441*. **Probability and Statistics I: Probability**
Fall, Spring, Summer. 3(03-00)
P: MTH 235 or concurrently.
Discrete and continuous distributions: univariate and multivariate. Normal approximation, sampling distributions and parameter estimation. Poisson process and applications.
QP: MTH 215 QA: STT 441 STT 442

442*. **Probability and Statistics II: Statistics**
Fall, Spring. 3(03-00)
P: STT 441, MTH 314 or concurrently.
Estimation, tests of hypotheses, confidence intervals. Goodness of fit, non-parametric methods. Linear models, multiple regression, ANOVA.
QP: STT 441 QA: STT 442 STT 443

461*. **Computations in Probability and Statistics**
Spring. 3(03-00)
P: CPS 131 or CPS 230; MTH 314, STT 441.
Computer algorithms for evaluation, simulation and visualization. Sampling and prescribed distributions. Robustness and error analysis of procedures used by statistical packages. Graphics for data display, computation of probabilities and percentiles.
QP: STT 441 MTH 334 QA: STT 461

464*. **Statistical Methods for Biologists**
Fall. 3(03-00) Interdepartmental with the Department(s) of Animal Science, Crop and Soil Sciences.
P: STT 421
Biological random variables; estimation of population parameters; testing hypotheses; linear correlation and regression (prediction); analyses of counted and measured data to compare several biological groups (contingency tables and analysis of variance)
QP: STT 421 QA: STT 422

465*. **Statistical Methods for Biologists II**
Spring. 3(03-00) Interdepartmental with the Department(s) of Animal Science, Crop and Soil Sciences.
P: STT 464
Concepts of reducing experimental error: covariance; complete and incomplete block designs; latin squares; split plots; repeated-measures designs; regression applications; response surface designs.
QP: STT 422 QA: ANS 871 CSS 920

471*. **Statistics for Quality and Productivity**
Fall. 3(03-00)
P: STT 351 or STT 422 or STT 442.
Scientific context of quality: Box, Deming, Taguchi. Graphical techniques, control charts. Design of experiments: factorials and fractional factorials, confounding and aliasing. Engineering parameter design through experimentation.
QP: STT 351 ORSTT 422ORSTT 442 QA: STT 471

481*. **Issues in Statistical Practice**
Spring. 1(01-00)
R: Open only to seniors in Statistics.
Selected readings and projects illustrating special problems encountered by professional statisticians in their roles as consultants, educators, and analysts.

490*. **Directed Study of Statistical Problems**
Fall, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 9 credits.
R: Open only to juniors and seniors in Mathematics or Statistics.
Individualized study of selected topics.
QA: STT 490

871*. **Theory of Statistics I**
Fall. 3(03-00)
P: STT 881 & MTH 821 (or concurr); MTH 921 (or concurr) or STT 862.
Empirical distributions, quantiles, Glivenko-Cantelli Theorem. Important distributions and families. Convergences, Slutsky Theorem, asymptotics of differentiable functions. Basic concepts of decision theory. Confidence sets. Some basic stat methods.
QP: STT 870 MTH 822 QA: STT 872

872*. **Theory of Statistics II**
Spring. 3(03-00)
P: STT 871; STT 882 (or concurr).
Theory of Neyman Pearson tests and extensions. Convex loss estimation, best unbiased estimates, sufficient statistics, information lower bounds. Extensive application to linear models. Introduction to LAN families and applications to estimation & test
QP: STT 872 QA: STT 873 STT 955

STUDIO ART STA

110*. **Drawing Fundamentals I**
Fall, Spring. 3(0-6)
Introduction to, and application of, the fundamental concepts of drawing. Emphasis on observational, descriptive and analytical analysis. Practice of drawing skills using common drawing media.
QA: STA 141