Statistics Courses

Courses

STAT 1380. Descriptive & Inferential Stat.
Basics of Descriptive and Inferential Statistics (3-0) A course in statistical literacy. Emphasis will be on standard descriptive measures of location, spread, and association. Regression, probability and sampling, and Binomial distribution. Interpretation of data which occur in daily life (polls, weather forecasting, surveys, quality control, etc.) will be stressed.
3 Credit Hours
3 Total Contact Hours
0 Lab Hours
3 Lecture Hours
0 Other Hours

Prerequisite(s): (MATH 0311 w/C* or better ) OR (MATH 1319 w/C or better ) OR (MATH 1320 w/C or better ) OR (MATH 1508 w/C or better ) OR (MATH 2301 w/C or better ) OR (MATH 1411 w/C or better ) OR (MATH 1312 w/C or better ) OR (MATH 2313 w/C or better ) OR (MATH 2326 w/C or better ) OR (BANM score between 3 and 5 ) OR (MATH 0311 w/S* or better ) OR (ACCL score between 051 and 120 AND BANM score between 3 and 5 ) OR (BANM score between 3 and 5 AND EPCM score between 051 and 120 ) OR (BANM score between 3 and 5 AND MAPM score between 714 and 725 ) OR (BANM score between 3 and 5 AND MATE score between 36 and 48 ) OR (BANM score between 3 and 5 AND TAKM score between 2200 and 2900 ) OR (MATH 1411A w/C or better AND MATH 1411B w/C or better AND MATH 1411C w/C or better ) OR (MATH 1508A w/C or better AND MATH 1508B w/C or better AND MATH 1508C w/C or better ) OR (MDM2 score of Y ) OR (MATH 0120 w/C or better AND ACCL score between 035 and 120 ) OR (MATH 0120 w/C or better AND MAPM score between 613 and 725 ) OR (MATH 0120 w/C or better AND MATE score between 26 and 48 ) OR (STAT 1380 w/C or better ) OR (NCBM M021 w/S* or better ) OR (TSIM score of 350 ) OR (SXDG score of 1 ) OR (SXMA score of 1 ) OR (SXMN score of 1 ) OR (SXOI score of 1 ) OR (S12 score between 530 and 800 )

An elementary introduction to probability, common probability distributions such as the binomial and Gaussian distributions, exploratory analysis of data, hypothesis testing, confidence intervals, contingency table analysis and chi-square goodness-of-fit, simple linear regression, one-way ANOVA, and Bonferroni correction for multiple comparisons. A statistical software package will be used for analysis of data and simulations to illustrate concepts.
4 Credit Hours
4 Total Contact Hours
1 Lab Hours
3 Lecture Hours
0 Other Hours

Prerequisite(s): (MATH 1320 w/C or better ) OR (MATH 1411 w/C or better ) OR (MATH 1508 w/C or better )

STAT 3320. Probability and Statistics.
By the end of this course, students should be able to read a word problem, realize the uncertainty that is involved in a situation described, select a suitable probability model, estimate and test its parameters on the basis of real data, compute probabilities of interesting events, and make appropriate conclusions. This course covers theory and applications of probability models, random variables, discrete and continuous probability distributions, joint and conditional distributions, sampling distributions, central limit theorem, hypothesis testing, confidence intervals, and exposure to simple linear regression. Time-to-failure probability models are considered. Students may not receive credit for both STAT 3320 and STAT 3330.
3 Credit Hours
3 Total Contact Hours
0 Lab Hours
3 Lecture Hours
0 Other Hours

Prerequisite(s): (MATH 1312 w/C or better ) OR (MATH 2313 w/C or better ) OR (MATH 2326 w/C or better )
Introduces students to probability and statistics applicable to mathematics majors planning a teaching career. By the end of this course, students should be able to read a word problem, realize the uncertainty that is involved in a situation described, select a suitable probability model, estimate and test its parameters on the basis of real data, compute probabilities of interesting events, and make appropriate conclusions. This course covers theory and applications of probability models, random variables, discrete and continuous probability distributions, sampling distributions, central limit theorem, hypothesis testing, and confidence intervals.

3 Credit Hours
3 Total Contact Hours
0 Lab Hours
3 Lecture Hours
0 Other Hours

Major Restrictions:
Restricted to majors of S53,S54

Prerequisite(s): (MATH 1312 w/C or better)

STAT 3330. Probability.
Probability (3-0) Theory and applications of probability models. Sample space, combinatorics, conditional probability, random variables, discrete and continuous probability distributions, expectation, moment generating functions, law of large numbers, central limit theorem.

3 Credit Hours
3 Total Contact Hours
0 Lab Hours
3 Lecture Hours
0 Other Hours

Prerequisite(s): (MATH 2313 w/C or better ) OR (MATH 2326 w/C or better)

STAT 3381. Nonparametric Statistics.
Nonparametric Statistics (3-0) Methods of distribution-free statistical inference, the binomial test and the related sign test, quantile test, McNemar test, Tolerance intervals. Nonparametric treatment comparisons in Independent samples (Mann-Whitney test) and related samples (Wilcoxon signed ranks test, Friedman test, and others.) Ranks correlations methods. Specialized procedures for regression.

3 Credit Hours
3 Total Contact Hours
0 Lab Hours
3 Lecture Hours
0 Other Hours

Prerequisite(s): (STAT 4380 w/C or better ) OR (STAT 2480 w/C or better)

STAT 4380. Statistics I.
Statistics I (3-0) A calculus-based development of statistical concepts and methods. Distribution theory, point and interval estimation and hypothesis testing in parametric statistical models, chi-square goodness-of-fit and contingency table analysis, simple linear regression analysis, introduction to analysis of variance.

3 Credit Hours
3 Total Contact Hours
0 Lab Hours
3 Lecture Hours
0 Other Hours

Prerequisite(s): (STAT 3330 w/C or better ) OR (MATH 3330 w/C or better)


3 Credit Hours
3 Total Contact Hours
0 Lab Hours
3 Lecture Hours
0 Other Hours

Prerequisite(s): (STAT 2480 w/C or better ) OR (STAT 3325 w/C or better)