Statistics Courses

Courses

STAT 1380. Statistical Literacy.
Statistical Literacy: [TCCN MATH 1342] Emphasis will be on standard descriptive measures of location, variability, and association. Includes regression, probability and sampling, and the normal distribution. Interpretation of data which occur in daily life (e.g.,polls, weather forecasts, medical studies, etc.).
Department: Statistics
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 0311 w/S* or better) OR (TAKM score between 2200 and 2900) 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 (SXTR score of 1) OR (S02 score between 500 and 800 AND S05 score between 1070 and 1600) OR (A02 score between 22 and 36 AND A05 score between 23 and 36) OR (STRM score between 4000 and 6396) OR (BCPM score of 1) OR (NCBM M011 w/S* or better) OR (2TSM score of 950) OR (2TDM score of 6 AND 2TSM score between 910 and 949) OR (S12 score between 530 and 800) OR (MDM2 score of Y) OR (BCM2 score of 1)

STAT 2480. Elementary Statistical Methods.
Elementary Statistical Methods: 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.
Department: Statistics
4 Credit Hours
4 Total Contact Hours
1 Lab Hour
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) OR (MATH 1310 w/C or better)

STAT 3320. Probability and Statistics.
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.
Department: Statistics
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)

STAT 3325. Prob & Applied Statistics.
Probability & Applied Statistics: 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.
Department: Statistics
3 Credit Hours
3 Total Contact Hours
0 Lab Hours
3 Lecture Hours
0 Other Hours
Prerequisite(s): (MATH 1312 w/C or better)

STAT 3330. Probability.
Probability: 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.
Department: Statistics
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 4329. Statistical Programming.
Statistical Programming: Introduces students to the principles and concepts of programming in Python and R. Students will be able to manipulate data, create summary reports and lists, edit and interactively debug code, manage complex data sets, transform and generate data, create effective graphics for data visualization, create user-defined functions and Python calculations, handle various data formats.
Department: Statistics
3 Credit Hours
3 Total Contact Hours
0 Lab Hours
3 Lecture Hours
0 Other Hours
Prerequisite(s): (STAT 4385 w/C or better)

STAT 4380. Statistics Inference.
Statistics Inference: 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 contigency table analysis, simple linear regression analysis, introduction to analysis of variance.
Department: Statistics
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)

STAT 4385. Applied Regression Analysis.
Applied Regression Analysis: A review of statistical inference and simple linear regression. An introduction to multiple linear regression and analysis of variance using normality assumption for common experimental designs, residual diagnostics and remedial measures for violation of assumptions. In-depth treatment of the concepts of type-I and type-II error rates, power, hypothesis, testing and inference.
Department: Statistics
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)

STAT 4474. Statistical Machine Learning.
Statistical Machine Learning: Machine Learning is an interdisciplinary field with joint inputs from statistics, computer science, machine learning, and artificial intelligence. This course is intended to cover some commonly-used data mining techniques, with more focus on the mathematical parts-statistical learning algorithms. The materials are arranged in two main categories: unsupervised learning and supervised learning.
Department: Statistics
4 Credit Hours
4 Total Contact Hours
0 Lab Hours
4 Lecture Hours
0 Other Hours
Prerequisite(s): (STAT 4329 w/C or better AND STAT 4385 w/C or better)