

Statistics (COST)

STAT 2231-Introduction to Statistics I

An introductory statistics course which covers descriptive statistics, probability, random variables and selected probability distributions, statistical inference including confidence intervals and hypothesis tests. Appropriate technology will be used for simulation and to solve statistical problems. Neither a background in calculus nor experience with computers is required. Prerequisite: A minimum grade of "C" in [MATH 1101](#), [MATH 1111](#), [MATH 1112](#), [MATH 1113](#), [MATH 1232](#), or [MATH 1441](#).

STAT 2232-Introduction to Statistics II

A continuation of [STAT 2231](#). The focus is on inferential procedures to compare the same characteristic between two or more populations and inferential procedures to investigate the relationship between two or more variables from the same population. Topics include tests of association, regression, correlation, and analysis of variance. The statistical software package SPSS is used. Prerequisite: A minimum grade of "C" in [STAT 2231](#).

STAT 3130-Applied Statistics

An introductory course in applied statistics for students in the natural sciences, social sciences, health and professional studies, technology, and business. The material covered will provide an introduction to statistical concepts and terminology while focusing on descriptive and inferential methods of data analysis. Both parametric and nonparametric methods are presented for the analysis of central tendency, variability, proportions, and categorical data. Topics covered also include regression and correlation. Prerequisite: [MATH 1111](#) or equivalent.

STAT 4090-Selected Topics in Statistics

Specialized study in a selected area of Statistics. Prerequisite: Permission of the instructor.

STAT 4890-Directed Study in Statistics

Directed study under faculty supervision. Well-prepared statistics students may be permitted to enroll in an independent study upon the recommendation of a Statistics faculty member. Prerequisites: Permission of instructor and department chair.

STAT 5130-Sampling and Survey Methods

An introduction to the design and analysis of sample surveys suitable for students in business, social sciences, and biological sciences in addition to the mathematical sciences. Comparison of simple random sampling, stratified, systemic, cluster and multistage sampling. Emphasis on appropriate sample type and estimation of parameters. Graduate students will be given an extra assignment determined by the instructor that undergraduates will not be required to do. Prerequisite: A minimum grade of "C" in [STAT 2231](#) or, with permission of instructor, any course in introduction to statistics.

STAT 5330-Introduction to Mathematical Statistics

An introductory course intended to present a solid foundation in statistical theory, and, at the same time, to provide an indication of the relevance and importance of the theory in solving practical problems in the real world. Topics include, moments and moment-generating functions, point and interval estimation, test of statistical hypothesis, contingency tables and goodness-of-fit, nonparametric methods, and introduction to linear models. This course covers part of the material outlined in the Society of Actuaries' course 110. Graduate students will be given an extra assignment determined by the instructor that undergraduates will not be required to do. Prerequisite: A minimum grade of "C" in [MATH 3337](#).

STAT 5531-Statistical Methods I

This is the first of a two course sequence in applied statistics. The material covered will provide an introduction to statistical concepts and terminology while focusing on descriptive and inferential methods of data analysis. Topics include descriptive statistics, parameter estimation, tests of significance, confidence intervals, analysis of variance, simple linear regression and correlation. Both parametric and nonparametric methods are presented for the analysis of central tendency, variability, proportions and categorical data. Graduate students will be given an extra assignment determined by the instructor that undergraduates will not be required to do. Prerequisite: A minimum grade of "C" in [MATH 3337](#).

STAT 5532-Statistical Methods II

This is the second of a two course sequence in applied statistics. The material covered will provide an introduction to the ideas of linear models and experimental design while focusing on methods of data analysis using

regression and analysis of variance. Topics include multiple regression analysis, analysis of variance with multiple classification, analysis of covariance, repeated measures analysis of variance, multiple comparison techniques, and diagnostic procedures and transformations. Suitable for students in business administration, economics, and the social, health and biological sciences. Graduate students will be given an extra assignment determined by the instructor that undergraduates will not be required to do. Prerequisite: A minimum grade of "C" in [STAT 5531](#) or, with permission of instructor, a one semester introduction to applied statistics at the junior level or above.