STATISTICS

The content of STAT 0200, STAT 1000, and STAT 1100 is substantially the same, and one course may be used in place of another in satisfying graduation requirements. A student will receive credit toward graduation for only one of these courses.

STAT 0200    BASIC APPLIED STATISTICS    4 cr.

This course teaches methods of descriptive and inferential statistics. Topics include data collection and description, hypothesis testing, correlation and regression, the analysis of variance, and contingency tables. Students will learn how to use a statistical computer package.

Prerequisite: None.

STAT 1000    APPLIED STATISTICAL METHODS    4 cr.

This course is an intensive introduction to statistical methods. It is designed for students who want to do data analysis and to study further ideas in applied statistics beyond this course. The topics covered include descriptive statistics, elementary probability, random sampling, controlled experiments, hypothesis testing, regression and the analysis of variance. Emphasis will be placed on the statistical reasoning underlying the methods. Students will also become proficient at the use of a statistical software package

Prerequisite: None.

STAT 1100    STATISTICS AND PROBABILITY FOR BUSINESS MGMT    4 cr.

One-term introduction to statistics and probability. Both modeling and data analysis will be emphasized. Various probability models for discrete and continuous variables will be analyzed. Inferential, descriptive and data analysis techniques will be covered with examples from management. A statistical package will be introduced and used to conduct data analyses.

Prerequisite: None.

STAT 1131    INTRODUCTION TO APPLIED STATISTICS    4 cr.

This course will cover basic concepts in Applied Statistics emphasizing intuition and examples. Students will be taught how to use the Minitab Statistical Computer and obtain in the process an introduction to Pitt computers. Topics include data description, exploratory data analysis, sampling, estimation, hypothesis testing, basic analysis of variance, regression, and contingency table analysis. The course examples and case studies, a number of which the students will analyze, are varied including illustrations from Medicine, Finance, Criminology, Education, Psychology and Biology.

Prerequisite: MATH 0020 or MATH 0031 or MATH 0100 or MATH 0200.
STAT 1141  INTRODUCTION TO APPLIED STATISTICS 2  3 cr.

Continuation of STAT 1000. Further development of linear regression models, ANOVA models, analysis of contingency tables, experimental design, and nonparametric methods. Emphasis will be placed on analyzing experimental data using statistical software.

Prerequisite: STAT 0200 or STAT 1000 or STAT 1100 or STAT 1131.

STAT 1151  INTRODUCTION TO PROBABILITY  3 cr.

Presents, at both a theoretical and applied level, the basic probability concepts required for statistical inference. Topics include set theory and basic probability, independence and Bayes' theorem, discrete random variables and their distributions--Bernoulli, binomial, Poisson, and geometric, continuous random variables and their distributions--uniform, exponential, gamma, beta, and normal, transformation of random variables, moment and moment generating functions, multivariate discrete distribution, marginal and conditional distribution and independent variables.

Prerequisite: MATH 0230.

STAT 1221  APPLIED REGRESSION  3 cr.

Covers simple linear regression (one variable) and one way analysis of variance followed by more complicated regression models. More complex anova models are treated if time permits. Some computer applications will usually be considered

Prerequisite: STAT 0200 or STAT 1000 or STAT 1100.

STAT 1251  STATISTICAL QUALITY CONTROL  3 cr.

This course is involved with statistical methods for quality and process control. It is intended for all students who will use statistics in an industrial setting. Introductory topics include probability models and statistical estimation for quality. The main focus will be on control charts and tolerances. Acceptance sampling will also be discussed. A final but quite important topic will be Taguchi methods.

Prerequisite: None.

STAT 1900  STATISTICS INTERNSHIP  3 cr.

Under faculty supervision the student participates in a Statistics project.

Note: Instructor Permission Required.
With approval from an instructor, the student will participate in a program of directed study in Statistics or Probability.

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