

## 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.**

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.**

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.**

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 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.**

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: STAT 0200 or STAT 1000 or STAT 1100.*

**STAT 1900                      STATISTICS INTERNSHIP                      3 cr.**

Under faculty supervision the student participates in a Statistics project.

*Note: Instructor Permission Required.*

**STAT 1902                      DIRECTED STUDY                      1-9 cr.**

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

*Note: Instructor Permission Required.*

**STAT 1955                      UNDERGRADUATE TEACHING - INTERNSHIP                      1-3 cr.**

Teaching assistantship opportunities in statistics.

*Note: Instructor Permission Required.*