

Department: Statistics

Course No: STAT 243Q

Title: Design of Experiments

Credits: 3

Contact : Dipak K. Dey

WQ: Q

Catalog Copy : Second semester. Three credits. Prerequisite: STAT 201 or 220 or consent of instructor. Credit may not be received for both STAT 243 and 343. Methods of designing experiments utilizing regression analysis and the analysis of variance.

Course Information :

A. Introduce students to various designs used in experiments in several areas of science and technology. The students learn to use statistical software to analyze data sets based on the statistical methods developed in this course.

B. Two in class mid-term exams and a final exam are given in this course. The students have weekly reading and problem assignments from the textbook.

C. Analysis of variance statistical models are the major theme of the course. The students learn various statistical methods used in the design of experiments. Using statistical software to analyze data sets is a major component of this course as well.

Q Criteria : It includes mathematics and statistics above the basic algebra level as an integral part which is used throughout the course. The course includes use of basic algebraic concepts such as: formulas and functions, linear and quadratic equations and their graphs, systems of equations, polynomials, fractional expressions, exponents, powers and roots, problem solving and word problems. The course requires the student to understand and carry out actual mathematical and statistical manipulations, and relate the materials to whatever data might be provided in order to draw conclusions.

Role of Grad Students: A graduate student will be used to grade the homework assignments. Graduate students in the teaching lab help the students to use statistical software in analyzing data sets in the homework assignments.