

Department: Statistics

Course No: STAT 272Q

Title: Introduction to Biostatistics

Credits: 3

Contact : Dipak K. Dey

WQ: Q

Catalog Copy : Either semester. Three credits. Prerequisite: STAT 220 or consent of instructor.

Rates and proportions, sensitivity, specificity, two-way tables, odd ratios, relative risk, ordered and non-ordered classifications, trends, case-control studies, elements of regression including logistic and Poisson regression, additivity and interaction, combination of studies and meta-analysis.

Course Information :

A. The goal is to introduce the students to the modern statistical methods in modeling analysis of data in biological and medical sciences. Teach the students the use of statistical software to analyze data sets.

B. The students have weekly reading assignments and problem set assignments. A mid-term and final exam is given in this course.

C. Topics covered in this course include: Statistical methods to analyze rates and proportions, contingency tables, logistic and Poisson regression models, survival analysis, combining studies and meta-analysis. Statistical software is a major part of this course.

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: Graduate students assist the faculty to grade homework assignments. In the computer lab the graduate students instruct the students to use statistical software to analyze datasets.