STATISTICS 806-4
Lifetime Data Analysis

Summer 2004
DAY COURSE

Instructor: C. Dean

Prerequisites:

STAT 450

Textbook:

Not Required

Calendar Description:

Statistical methodology used in analyzing failure time data. Likelihoods under various censoring patterns. Inference using parametric regression models including the exponential, Weibull, lognormal, generalized gamma distributions. Goodness of fit tests. The proportional hazards family, and inference under the proportional hazards model. Stratification and blocking in proportional hazards models. Time and dependent covariates. Regression methods for grouped data.

Outline:

Statistical methodology used in analyzing failure time data. Likelihoods under various censoring patterns. Inference using parametric regression models including the exponential, Weibull, lognormal, generalized gamma distributions. Goodness-of-fit tests. The proportional hazards family, and inference under the proportional hazards model. Stratification and blocking in proportional hazards models. Time-dependent covariates. Regression methods for grouped data.

1. Basic ideas
2. Some nonparametric and graphical procedures
3. Review of maximum likelihood large sample theory
4. Inference with specific lifetime distributions
5. Nonparametric/distribution free methods
6. Regression analysis
7. The proportional hazards model
8. Regression methods for grouped data
9. Longitudinal studies
10. Multivariate and multi-state problems

Grading

Assignments 40%
Project 20%
Final Examination 40%

Students should be aware that they have certain rights to confidentiality concerning the return of course papers and the posting of marks. Please pay careful attention to the options discussed in class at the beginning of the semester.

Revised January 2003