

STA 565 – Analysis of Survival Data Fall 2012

Instructor: Dr. Scott Richter

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Hours: By appointment

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I. About the course

This course is an introduction to survival analysis. Topics will include including parametric and nonparametric procedures for censored or truncated data, regression model diagnostics, group comparisons, and the use of relevant statistical software packages. Prerequisite: STA 291, or 352 or 662 or permission of instructor. After completing the course, students will be able to: 1) use parametric and nonparametric methods to estimate and compare survival functions; 2) model hazard using proportional hazards regression; 3) apply time-to-event methods to data and explain the results of their analysis.

Prerequisite: grade of at least "C" in STA 291 or STA 352 or STA 662 or permission of instructor. Students are expected to be familiar with methods for comparing groups (e.g., t-tests, ANOVA methods, Wilcoxon/Kruskal-Wallis tests), and simple and multiple linear regression. (Some knowledge of logistic regression is also helpful).

We will use the text: [Applied Survival Analysis, 2nd edition](#) by Hosmer, Lemeshow & May, and expect to cover most of the material in Chapters 1-8.

Topics will include:

Characteristics of survival data; Censoring mechanisms; Estimating and describing the survival function; Comparing survival functions of two or more groups; Hazard functions; Regression models for survival data; Fitting and estimating the proportional hazards model; Interpretation and model development; Stratified proportional hazard models; Time-varying covariates; Parametric regression models

II. Assignments and Exams

1) Assignments consisting of exercises from the text and occasionally supplementary exercises will be assigned regularly, collected and graded. These will be designed to provide practice and to help synthesize readings, class discussions, and lectures. ****Late assignments will not generally be accepted without prior arrangement, and will receive a score of zero.***

2) There will be two exams. **Exams must be completed at the scheduled date and time unless other arrangements are made in advance.*

Graduate students: Graduate students will be expected to demonstrate a deeper understanding of concepts, and will be expected to complete additional exercises on assignments and tests.

Student collaboration: Students are encouraged to discuss solutions to Assignments, but the final write-ups for submission should be done independently.

III. Determination of course grade

Tests: 40% of course grade.

Assignments: 60% of course grade.

Grading scale:

Overall average	Grade
90 or above	A or A-
80-89	B+, B or B-
70-79	C+, C or C-
60-69	D+, D or D- *
Below 60	F

*Note: For graduate students an overall average below 70 corresponds to a grade of "F".

IV. Academic Integrity

Students are encouraged to discuss solutions to assignments, but each student is expected to write up his or her solutions independently. Copying other people's work is plagiarism and is an Academic Integrity violation. You are responsible for knowing and abiding by the [UNCG Academic Integrity Policy](#).

V. Disabilities

If you have a documented disability and wish to discuss academic accommodations, please contact me as soon as possible.