

**Instructor:** Dr. Mike Daniels (mdaniels@stat.ufl.edu)  
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**Lecture:** Period 2-3, Tuesday; Period 3, Thursday, G-FLO 230

**Pre-requisites:** STA 6327 (Intro to Theoretical Stats II)

**Required Text:**

*Survival Analysis: Techniques for censored and truncated data, 2nd edition* by Klein and Moeschberger, 2003, Springer-Verlag

**Office Hours:** T Period 4; T/Th Period 2 & 4 or by appointment (call or email)

**Audience:**

Masters and PhD level graduate students in statistics

**Content:**

The course will provide an introduction to statistical methods for the analysis of survival data. Topics include Kaplan-Meier and Nelson estimators of the survivor function and parametric and semiparametric regression models. One week will also be spent introducing the theory of counting processes and martingales which will be useful for students continuing on to do research in survival methods. If time permits, advanced topics such as frailty and recurrent event models and methods for informative censoring will be introduced. Implementation of these methods in R will be discussed.

**Assignments:**

There will be 5 to 7 assignments during the semester. Assignments will be due by 5pm in my office on the due date. Late assignments will not be accepted. Solutions will be posted on the course web site.

**Project:**

Students will have two choices: 1) Conduct a careful analysis of original survival data (not data you found on the web) using the methods discussed in class and write up a paper which should include a description of the data and questions of interest, a description of appropriate methods, results, and conclusions. 2) Write a report on methods not covered in the course; an example might be methods to handle covariates measured with error in the Cox model or approaches to handle competing risks. The projects should be no more than 13 pages, including references, tables, figures, etc. These projects will be presented during the last two weeks of class.

**Exams:**

The two exams will be given during regular class time as indicated on the tentative schedule on p. 2. The exams will require a calculator. If you are unable to take an exam on the scheduled date (due to circumstances beyond your control), you need to contact me **BEFORE** you miss the exam. Otherwise, you will receive a 0 on the exam.

**Grades:**

Grades for the course will be based on the following:

Assignments	15%
Project	25%
Exam 1	30%
Exam 2	30%

Topics	Number of Weeks	KM reading	Exam
Introduction/Non-param/ Counting Processes	3	Ch 1-4	Exam I
Hypothesis Testing	1	Ch 7	
Cox (PH) model	2	Ch 8	
Diagnostics	2	Ch 11	
Param reg models	2	Ch 12	
Interval-censoring	1	Ch 5.2	Exam II
Adv topics	1	Ch 6	
Mult survival	1	Ch 13	
Projects	2		