STA 7249   Generalized Linear Models   **Spring 2019**

Instructor: Dr. Mike Daniels (mdaniels@stat.ufl.edu)
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Lecture: T Period 4, Th Period 3-4, FLO 230

Pre-requisites: STA 6207-6208 and Stat 6327.

Some Useful texts (on reserve in Marston Science Library):

   Dobson and Barnett (2008) *An introduction to generalized linear models, 3rd edition*, CRC Press.

   Diggle, Heagerty, Liang, Zeger (2002) *Analysis of longitudinal data, 2nd edition*, Oxford University Press.

   Fahrmeir and Tutz (2001) *Multivariate statistical modelling based on generalized linear models.* Springer.

   Hardin and Hilbe (2007) *Generalized linear models and extensions, 2nd edition.* Stata Press.

   Hastie and Tibshirani (1990) *Generalized Additive Models.* Chapman & Hall.

   McCullagh and Nelder (1989) *Generalized Linear Models, 2nd edition*, Chapman & Hall.

   McCulloch, Searle, Neuhaus (2008) *Generalized, linear, and mixed models*, Wiley.

   Ruppert, Wand, Carroll (2003) *Semiparametric regression*, Cambridge University Press.

   Wood (2006) *Generalized additive models: An introduction with R.* Chapman & Hall/CRC Press.

Office Hours: T Period 2-3, Th Period 2 or by appointment (call or email)

Content:
    This course will focus on the theory and application of generalized linear models and related topics. The core material covered will be in Chapters 3-9 of Dobson and Barnett. Questions on this material appear on the PhD qualifying exam. Advanced topics including generalized linear mixed models, marginalized models, generalized estimating equations, generalized additive models, penalized regression, and missing covariates will be covered if time permits.

Computing: Models introduced will be fit using R. You will be required to write code to fit some of these models. Datasets will be provided.

Assignments: There will be several assignments handed out during the semester. Assignments will be due at the beginning of class on the due date. Late assignments will not be accepted. Your homework grade will be based on both completing the assignment and my grading of selected problems.

Project: A twenty minute presentation on an advanced topic not covered in the course. It will be graded based on correctness and clarity. Topic must be approved by me ahead of time. I will give more details at the end of February.

Exams: There will be two exams given during regular class time (dates given below). 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	10%
Project	20%
Exam I	35%
Exam II	35%

Important Dates

No class: Tuesday March 26

Exam I: Thursday February 21

Exam II: Thursday April 18