## ANG 6930

Spring 2013

Applied Statistics in Biological Anthropology

TIME:	M periods 7-8, W period 7
PLACE:	TUR 1208H
INSTRUCTOR:	David Daegling, B376 Turlington Hall (352) 294-7603 daegling@ufl.edu Office Hours: M 4:00-5:30 PM; F 1:00 – 3:00.

COURSE OBJECTIVES: This course provides a practical, problem-based approach to data analysis in the field of biological anthropology. Parametric, nonparametric and resampling alternatives are explored concurrently for specific problems. *A basic familiarity with statistics is assumed*. There is no textbook for the course, but we will review papers in the primary literature as exemplars of statistical application (or misapplication) for some topics. We will use the open-source platform **R** for statistical analyses. You may wish to consult some of the many published and online resources for **R** to familiarize yourself with its applications. Graphical methods for data presentation will also be explored using this platform. This course is not designed to provide background in statistical theory.

COURSE REQUIREMENTS: The grading criteria for the course include timely and correct completion of homework assignments (70%), attendance and participation (20%) and critical analysis of statistics in the primary literature (10%). For some problems you may evaluate unique datasets to analyze and interpret.

OTHER POLICIES: Late assignments get zero credit unless prior arrangement with the instructor has been made. Cell phones and pagers must be off during class. Academic dishonesty in any form will not be tolerated and is subject to university policy (University of Florida Rules - 6C1-4 Student Affairs), which includes provisions for expulsion from the university. Students requesting classroom accommodation must first register with the Dean of Students Office (DSO). The DSO will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation. Students experiencing personal problems that are interfering with their academic performance are encouraged to contact the University Counseling Center (301 Peabody Hall, 392-1575), Student Mental Health (Student Health Care Center, 392-1171), or Sexual Assault Recovery Services (Student Health Care Center, 392-1171).

COURSE ADMINISTRATION: Syllabi, assignments, datasets, resources, and readings will be distributed through e-learning: <u>http://lss.at.ufl.edu/</u>

## COURSE SCHEDULE

Week	Торіс	Reading
1 (1/7)	Navigating R	Dalgaard Chapter 1
2 (1/14)	Understanding probability	Dalgaard Chapter 3; Cheng & Pitt 2003
3 (1/21)	Handling data	Zuur Chapters 2, 3
4 (1/28)	Resampling methods	Lee 2001; Zuur Chapter 6
5 (2/4)	Analysis of frequencies	Dalgaard Chapter 8
6 (2/11)	Graphics	Zuur Chapters 5, 7
7 (2/18)	Power Analysis, Angular Data	Dalgaard Chapter 9; Griffin & Richmond 2009
8 (2/25)	Structure of ANOVA	Dalgaard Chapter 7 (through 7.2)
9 (3/11)	Heirarchical ANOVA	Daegling et al. 2011; Conover & Iman 1981
10 (3/18)	Factorial designs	Dalgaard Chapters 7 (through 7.6), 12 (12.6)
11 (3/25)	Regression and correlation	Dalgaard Chapter 6; Foley 1991
12 (4/1)	ANCOVA	Dalgaard Chapter 12 (12.7), Grant et al 1992
13 (4/8)	Multiple regression, GLM	Dalgaard Chapter 11, 13; Dunbar & Schultz 2007
14 (4/15)	Discriminant functions	Corruccini 1975
15 (4/22)	Principal components analysis	Fleagle & Reed 1996