

**Department of Epidemiology and Biostatistics  
College of Public Health  
University of Georgia  
BIOS 7400  
Research Data Management and Computing  
Fall 2008**

**Course Information**

Instructor: Sangwook Kang  
Office Location: 129a Coverdell  
Phone: (706) 583-0211  
Email: skang@uga.edu  
Office Hours: Wednesday, 1:30 – 3:30pm, or by appointment  
TA:  
Email:

**Course Meeting Time and Location**

Building: Paul D. Coverdell Center  
Room: 341, 167 (CPH computer lab)  
Day: Monday, Wednesday, Friday  
Time: 11:15am – 12:05pm

**Textbooks and Other Required Course Material**

Textbook (required): Lora D. Delwiche and Susan J. Slaughter (2003). *The Little SAS Book: A Primer*. 3<sup>rd</sup> ed., SAS Publishing.

Textbook (optional): Georff Der and Brian S. Everitt (2001). *Handbook of Statistical Analyses Using SAS*, 2<sup>nd</sup> ed., Chapman & Hall/CRC.

References:

- SAS online documentation (<http://support.sas.com/documentation/onlinedoc/91pdf/index.html>)
- SAS system help
- SAS website (<http://www.sas.com>)
- R website (<http://www.r-project.org>)

Software: SAS (available in computer labs located in *Coverdell Center, 104 Environmental Health Science*, and 307 Statistics. Students may lease SAS from MSD; see <http://www.msd.uga.edu>), R (free software; Students may download R from <http://www.r-project.org>).

Lecture notes, programs, data and announcements will be posted on WebCT.

## **Course Description**

This three-credit course is designed to introduce students to concepts and techniques of research data management, using computers and statistical program packages (SAS 9.1) to process and analyze biomedical and health-related data. SAS version 9.1 will be the primary statistical package used for the course, although other statistical software such as R will also be introduced. Two one-hour lectures and one one-hour lab will be held weekly.

Prerequisites: BIOS 7020 or equivalent courses in statistics (STAT 6220 or 6320) or permission of instructor

## **Course Learning Objectives**

Students completing this course will learn the basic concepts of data management. They will learn how to create and manage data sets with SAS, while also learning the SAS procedures needed for basic statistical analyses.

## **Course Requirements for Grading Purposes**

Homework:

- There will be roughly one homework assignment per week.
- In general, only hard copy of the homework is accepted, however, under special circumstances you may send your homework by e-mail in a PDF format or in a MS-Word format.
- All homework assignments are due at the beginning of the class period on the date on which they are due. No delay will be allowed.
- Students are encouraged to work together on homework, but copying someone else's work always an academic honesty violation.

Final project:

- There will a final project. No exams will be given. The final project will be due on December 12, Friday, 3:00pm.

## **Topical Outline**

1. Introduction to Research Data Management
2. Introduction to Computers
3. Introduction to the SAS System
4. Data management using SAS
  - Using SAS Procedures
  - Transforming, Managing, and Combining SAS Data sets
  - Using External Files with SAS
  - Report Writing
5. Advanced SAS
  - Using SAS/IML Software
  - Statistical Graphics with SAS/GRAPH

- Introduction to PROC SQL
  - The Macro Language
6. Introduction to other statistical and epidemiological software (R, Epi Info™)
  7. Introduction to Research Computing

### **Grading Policy**

Homework: 65%  
Final project: 30%  
Class attendance and participation: 5%

### **Make-Up Policy**

You must contact the instructor in advance if you are unable to take an exam at its scheduled time. Arrangements may then be made for a make-up exam.

### **Attendance Policy**

Attending all classes is highly recommended. *Those who miss classes too often may not get full 5% credit.*

### **University Honor Code and Academic Honesty Policy**

All academic work must meet the standards contained in “A Culture of Honesty.” All students are responsible to inform themselves about those standards before performing any academic work. More detailed information about academic honesty can be found at <http://www.uga.edu/ovpi/honesty/acadhon.htm>

### **Students with Disabilities**

Students with disabilities who require reasonable accommodations in order to participate in course activities or meet course requirements should contact the instructor or designate during regular office hours or by appointment.

### **General Disclaimers**

*The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.*