

**BIostatistics 602 Lab**  
Spring 2004  
Section 0102

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<b>Instructors:</b>	Larry Douglass	Shannon Borges
Office:	Animal Sciences Room 1405	
Phone:	405-1405	
E-Mail:	LDouglas@umd.edu	sborg10@yahoo.com
Fax:	405-7980	

### **Lab Objectives**

This is a hands-on computer lab designed to train you to use linear model procedures in SAS to analyze the experimental and treatment designs covered in lecture. We assume prior knowledge of both elementary statistical procedures and their analysis using SAS (equivalent to BIOM 601 lecture and lab). You should leave this class able to implement the linear model analyses for the designs covered in lecture and lab. A large portion of your lab grade will be determined by your ability to present the results of your data analysis in written form as if for publication in the biological literature in an abstract, paper, tables, figures, etc.

### **Missed Labs, late assignments and grading**

You are expected to attend your registered lab section. If you miss your lab, it is your responsibility to get the assignment from a classmate and to complete the assignment on time. Lab assignments will be due at the beginning of lab. If you cannot turn in an assignment on time, you are still expected to complete the assignment asap. I will note, in the grade book, that the assignment was completed. A single late assignment will not hurt your grade, but multiple late assignments and missing assignments will receive a grade of zero.

Your lab grade will account for 40% of your course grade. There will be a quiz, data analysis assignment, and/or an abstract or paper due most weeks. Lab assignments will include lecture materials. Some assignments will be more extensive and require a more formal write-up and will contribute more to your lab grade than others.

## LAB SCHEDULE

<u>WEEK</u>	<u>DATE</u>	<u>TOPIC</u>
1	1/29	Introduction to PROC MIXED and interpreting the output.
2	2/5	Examination of assumptions: homogeneity of variances and normality.
3	2/12	CONTRAST and ESTIMATE statements. Pairwise mean comparison procedures.
4	2/19	Abstract/paper organization and structure, What do I include and where?, Presenting statistical results, Tables and figures
5	2/26	Randomized block designs.
6	3/4	To Be Announced
7	3/11	Latin square and cross-over designs.
8	3/18	Factorials: examination of interactions, plotting means, interactions and response surfaces.
	3/25	Spring Break
9	4/1	Factorials (continued)
10	4/8	Resampling techniques
11	4/15	Nested sampling designs; Sample size estimation.
12	4/22	Analyzing split unit designs. Analyzing combined experiments.
13	4/29	Analyzing repeated measures designs: Computed variables containing time, Repeated measures analysis.
14	5/6	Analysis of covariance techniques.

## BIOMETRICS 602 Lab Policies

1. You must attend your **registered lab section**.
2. Do not have **food or drink** at your computer.
3. **Lab materials** will be handed out only once. Extra materials are generally left in the lab, but seldom are their copies remaining the following week. You should find a buddy to pick-up materials for you if it is necessary for you to miss lab. Otherwise, you will need to borrow the material from a classmate to make yourself a copy.
4. **Open Lab.** Most instructors do not mind if students use available computers during their classes. In general, use the computers in the back of the room, do not be up and moving about the room when the instructor is making a presentation and avoid using the printer if they are being heavily used by the scheduled class. If you would like access to the lab during the semester, I can authorize access to the lab during normal working hours using your student ID.
5. **Missed labs.** If you miss your lab, it is your responsibility to get the assignment from a classmate and make up the work on your own. Do not expect us to repeat the lab one-on-one for a lab that you missed.
6. Discussion and exchange of ideas with other students are a useful part of learning to analyze data and to complete assignments. We also encourage you to form study groups to talk statistics. However, you are expected to write your own programs and to turn-in **independent** homework assignments, unless an assignment is identified as a group project.
7. **Lab assignments** will be due at the beginning of lab on the date due. Please turn in only what was requested and if extensive information is required, be sure your answers are clearly marked so that we don't have to search for your answers. If you can not turn in an assignment on time, you are expected to complete and turn it in asap. I will note, in the grade book, that the assignment was completed. A single late assignment will not hurt your grade, but multiple late assignments and missing assignments will receive a grade of zero.
8. **Regrades.** If you request a regrade, you must submit it to me before the next lab. Simply note at the top of the front page which problem(s) you want reconsidered. Warning: You do not need to provide any explanation. The problem will be fully regraded and if any explanation provided indicates a lack of understanding your grade may be decreased.

**Academic Dishonesty:**

All members of the University Community share the responsibility to challenge and make known acts of apparent academic dishonesty. Acts of academic dishonesty will not be tolerated and will be referred to the UMCP Student Honor Council. Information regarding University policies about academic dishonesty may be found at:

<http://www.testudo.umd.edu/soc/dishonesty.html>

**Honor Code:**

The University has a nationally recognized Honor Code, administered by the Student Honor Council. The Student Honor Council Proposed and the University Senate approved an Honor Pledge. The University of Maryland Honor Pledge reads:

“I pledge on my honor that I have not given or received any unauthorized assistance on this examination or assignment”

Unless you are specifically advised to the contrary, the Pledge statement should be handwritten and signed on the front cover of all exams or assignments submitted for evaluation in this course. Students who fail to write and sign the pledge will be asked to confer with the instructor.

**Academic accommodations:**

If you have a documented disability and wish to discuss academic accommodations with me, please contact me as soon as possible. The Disability Support Service (a division of the Counseling Center.) stands ready to assist faculty in determining and implementing appropriate academic accommodations. DSS will work closely with both faculty and students. You may contact the office (301) 314-7682, Rm. 0126 Shoemaker Hall.