

**University of Florida**  
**College of Public Health & Health Professions Syllabus**  
**Fall 2017 PHC 6937: Public Health Computing (3 credits)**  
 Section: 26B1 – HPNP G201 - M 8<sup>th</sup> and T 6-7<sup>th</sup> Periods  
 Delivery Format: Lecture  
 Course Content in E-Learning using CANVAS: <http://elearning.ufl.edu>

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Instructor Name:	Dr. Robert Parker
Room Number:	CTRB 5219
Phone Number:	352-294-5906
Email Address:	rlp176@ufl.edu
Office Hours:	W 7 <sup>th</sup> Period HPNP G201 or by appointment
Preferred Course Communications:	E-mail in CANVAS

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**Prerequisites:** PHC 6052: Introduction to Biostatistical Methods. Students must have prior experience with basic data entry and analysis in SAS. Students who have not taken the pre-requisite course must illustrate their SAS skills at the PHC 6052 level in order to obtain instructor approval to enroll. All students must have access to a computer in class with SAS 9.3 or higher installed and the ability to run R 3.4 or higher. See <http://software.ufl.edu/agreements/sas/student/> for SAS program purchase information and online documents. Computing requirements can be found at <http://mph.ufl.edu/current-students/student-essentials/technology-requirements/>.

**Corequisite:** PHC 6053: Regression Methods for Health and Life Sciences. Students must have or be concurrently taking a course that covers multiple and logistic regression in detail.

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## PURPOSE AND OUTCOME

**Course Overview:** This is a three credit course which covers using SAS and R to process and analyze public health data. Students will learn how to input, store, modify, display and perform common analyses of public health data using SAS and R. Although we will discuss results, this course does NOT teach statistical methods.

**Relation to Program Outcomes:** This three-credit course is a required concentration core course for MPH Biostatistics students and covers the following competencies.

- Describe the role of biostatistics in public health research.
- Use appropriate statistical methodology to address public health problems.
- Develop presentations based on statistical methods and analyses for public health professionals and educated lay audiences.
- Apply software to conduct statistical analyses.

### Course Objectives and/or Goals:

- Input, export, store, modify, display, and analyze public health data using SAS and R.
- Demonstrate how to use common SAS procedures and R functions to analyze public health data.
- Create SAS MACROS and user defined R functions to solve complex problems.
- Use ODS techniques to control SAS output.
- Plan and implement data analyses using SAS and R and present the results.
- Solve problems with SAS and R independently.

- Plan and implement simulations using SAS and R.

**Instructional Methods:** This course is presented using face to face lectures. Lectures will be given during M 8<sup>th</sup> period and Tuesday 6<sup>th</sup> period. During the Tuesday 7<sup>th</sup> period class session, students will have the opportunity to ask questions of the instructor and work with each other to create solutions to assignments. Students can also receive feedback and assistance via the course discussion board or email in E-Learning.

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## DESCRIPTION OF COURSE CONTENT

### Tentative Course Schedule

Week	Topic(s)
1	Syllabus and Intro to R
2	Reading in and Exporting Data
3	ODS in SAS and Basic R Plotting
4	SAS MACROS and R Functions
5	Data Management and Cleaning in SAS and R
6	Simulations
7	Categorical Data Analysis
8	ANOVA and Simple Linear Regression
9	<b>Midterm Project</b>
10	Multiple Linear Regression
11	Logistic and Poisson Regression
12	Survival Analysis
13	PROC SQL and the dyplr package
14	Advanced Plotting
15	Wrap Up
16	<b>Final Project</b>

### Course Materials

- The Little SAS Book: A Primer 5<sup>th</sup> ed., by Lora Delwiche and Susan Slaughter. You can read this book for free via the UF library or purchase a hard copy.
- An Introduction to R by W. N. Venables, D. M. Smith and the R Core Team. Available online for free at <https://cran.r-project.org/doc/manuals/R-intro.pdf>

**Technology:** A computer running SAS 9.3 or higher and capable of running R and RStudio.

**Videos and E-Learning:** An E-Learning site will be available for the course using CANVAS. The weekly schedule and all course materials are available online through this site including lecture videos, grades, assignments, and other course information. E-Learning is accessible at [elearning.ufl.edu](http://elearning.ufl.edu). You must have a valid Gatorline ID and password to access this course site. For assistance call the UF Help Desk at 392-HELP.

For technical support for this class, please contact the UF Help Desk at:

- [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu)
- (352) 392-HELP - select option 2
- <https://lss.at.ufl.edu/help.shtml>

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## ACADEMIC REQUIREMENTS AND GRADING

### Assignments

- **Assignments:** Each week there will be programming activities related to the material covered in the lectures and reading. These assignments will typically be assigned on Tuesday and due the following Tuesday by 10pm.
- **Midterm Project:** The midterm project will be a programming project on both SAS and R topics covered during the first half of the semester.
- **Final Project:** For the final project, each student will find their own dataset and perform a guided data analysis. The analyses will be done in both SAS and R with the results written up in a final report.

## Grading

Requirement	% of final grade
Assignments	60%
Midterm Project	20%
Final Project	20%

Point system used (i.e., how do course points translate into letter grades).

<b>Final Average</b>	94-100	90-93	85-89	80-84	77-79	74-76	70-73	67-69	64-66	60-63	57-59	Below 57
<b>Letter Grade</b>	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E

Please be aware that a C- is not an acceptable grade for graduate students. A grade of C counts toward a graduate degree only if an equal number of credits in courses numbered 5000 or higher have been earned with an A. In addition, the Bachelor of Health Science Program does not use C- grades.

<b>Letter Grade</b>	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E	WF	I	NG	S-U
<b>Grade Points</b>	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0	0.0	0.0	0.0	0.0

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar's Grade Policy regulations at:

<http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

**Policy Related to Make up Exams or Other Work:** Students are allowed to make up work ONLY as the result of illness or other unanticipated circumstances warranted a medical excuse and resulting in the student missing an assignment deadline, consistent with the College policy. Documentation from a health care provider is required. Work missed for any other reason will receive a grade of zero. Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

**Policy Related to Required Class Attendance:** Class attendance is mandatory. Excused absences follow the criteria of the UF Graduate Catalogue (e.g. illness, serious family emergency, military obligations, religious holidays.), and should be communicated to the instructor prior to missed class days when possible. UF rules require attendance during the first two course sessions. Regardless of attendance, students are responsible for all materials presented in class and meeting the scheduled due dates for class assignments. Finally, students should preview the currently assigned materials prior to the class meetings, and be prepared to discuss the material. Please note that all faculty are bound by the UF policy for excused absences. For information regarding the UF Attendance Policy see the Registrar website for additional details:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

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## STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

**Communication Guidelines:** Questions about course material should be posted on the course discussion boards in E-learning or in class. Questions about a specific quiz question or of a personal nature should be sent by email INBOX through E-Learning.

**Academic Integrity:** Students are expected to act in accordance with the University of Florida policy on academic integrity. As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge:

**“We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.”**

You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied:

**“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”**

It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For additional information regarding Academic Integrity, please see Student Conduct and Honor Code or the Graduate Student Website for additional details:

<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>  
<http://gradschool.ufl.edu/students/introduction.html>

Please remember cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior.

**Online Faculty Course Evaluation Process:** Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

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## SUPPORT SERVICES

### Accommodations for Students with Disabilities

If you require classroom accommodation because of a disability, you must register with the Dean of Students Office <http://www.dso.ufl.edu> within the first week of class. The Dean of Students Office will provide documentation of accommodations to you, which you then give to me as the instructor of the course to receive accommodations. Please make sure you provide this letter to me by the end of the second week of the course. The College is committed to providing reasonable accommodations to assist students in their coursework.

### Counseling and Student Health

Students sometimes experience stress from academic expectations and/or personal and interpersonal issues that may interfere with their academic performance. If you find yourself facing issues that have the potential to or are already negatively affecting your coursework, you are encouraged to talk with an instructor and/or seek help through University resources available to you.

- The Counseling and Wellness Center 352-392-1575 offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their web site for more information: <http://www.counseling.ufl.edu>. On line and in person assistance is available.
- You Matter We Care website: <http://www.umatter.ufl.edu/>. If you are feeling overwhelmed or stressed, you can reach out for help through the You Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: <https://shcc.ufl.edu/>
- Crisis intervention is always available 24/7 from:  
Alachua County Crisis Center  
(352) 264-6789  
<http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx>

Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.