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# Biostatistics Course Offerings

## Spring 2019

The following courses are not managed by our department, but are taught by faculty within our department. Information regarding registration details can be found below each course:

### Courses for Students Not in MS or PhD Programs in Biostatistics

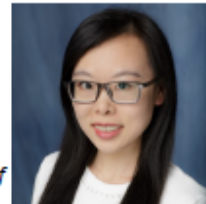
#### PHC 6050 – Statistical Methods Health Science I (3 Credits)

Instructors: Yichao Yu, Ph.D. ([yvyu2013@ufl.edu](mailto:yvyu2013@ufl.edu))

Online Only

*Statistical methods for description and analysis provide investigators with useful tools for making sense of data. The pervasiveness of statistics in public health as well as other fields has led to increased recognition that statistical literacy – familiarity with the goals and methods of statistics – should be a basic component of a well-rounded educational program. In this course, students will develop statistical vocabulary, learn methods for descriptive data analysis, study the fundamental of probability and sampling distributions, learn methods for statistical inference and hypothesis testing will be based on one or two samples, and become familiar with categorical data analysis and linear regression. Data analysis will be conducted in SPSS.*

Please contact Yichao Yu for instructor approval and forward it to Bridgette Sullivan ([b.sullivan@phhp.ufl.edu](mailto:b.sullivan@phhp.ufl.edu)) to request registration for this course.



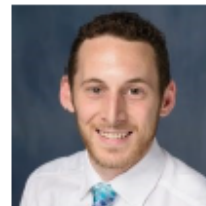
#### PHC 6053 – Regression Methods for Health and Life Sciences (3 Credits)

Instructors: Steven Foti, Ph.D. ([fotisi@ufl.edu](mailto:fotisi@ufl.edu))

Online Only

*This course introduces graduate students in fields other than statistics to a wide range of modern regression methods. Emphasis is on modeling driven by actual data from studies in a variety of areas, primarily from health, biology, and ecology. The primary topics are multiple linear regression, logistic regression, and Poisson regression. A main goal is to learn what approach to use among the linear and nonlinear models, and how to determine whether the fit is adequate. By the end of the course, students will achieve competency in carrying out the analyses in SAS.*

Please contact Steven Foti for instructor approval and forward it to Bridgette Sullivan ([b.sullivan@phhp.ufl.edu](mailto:b.sullivan@phhp.ufl.edu)) to request registration for this course.



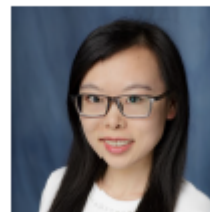
### PHC 6937 – Survey of Biostatistical Methods (3 Credits)

Instructors: Yichao Yu, Ph.D. ([yyu2013@ufl.edu](mailto:yyu2013@ufl.edu))

Location: HPNP G103

Tuesday, 1:55-2:45p

Thursday, 1:55-3:50p



*This course is a survey of biostatistical methods beyond one and two sample techniques covered in PHC 6052. Advanced topics will be selected from areas such as multiple linear regression, study design and ANOVA, contingency tables, logistic regression, Poisson regression, repeated measures and longitudinal data analysis, missing data methods, model/variable selection, survival analysis, multivariate methods, or non-parametric methods. Focus will be on the application of these techniques to data from the health sciences. Examples will make use of SAS and R for this course.*

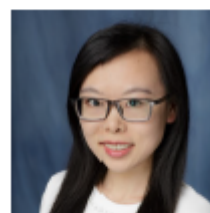
### PHC 6937 – Public Health Computing (3 Credits)

(Formerly PHC6055, PHC 6080, PHC 6081)

Instructors: Yichao Yu, Ph.D. ([yyu2013@ufl.edu](mailto:yyu2013@ufl.edu))

Tuesday, 8:30-10:25a Location: HPNP G105

Thursday, 8:30-9:20a Location: HPNP G301A



*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.*

Please contact Yichao Yu for instructor approval and forward it to Bridgette Sullivan ([b.sullivan@phhp.ufl.edu](mailto:b.sullivan@phhp.ufl.edu)) to request registration for this course.

### MS and PhD Courses

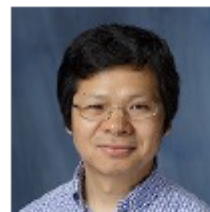
All courses in the MS and PhD program require three semesters of calculus and one semester of linear algebra, as well as other prerequisites.

### PHC 6020 –Clinical Trials Methods (3 Credits)

Instructors: Zhigang Li, Ph.D. ([zhigang.li@ufl.edu](mailto:zhigang.li@ufl.edu))

Tuesday, 1:55-3:50p Location: HPNP G312

Thursday, 1:55-2:45p Location: HPNP G316



*This course will introduce some basic statistical concepts and methods used in Epidemiology and will focus on the statistical principles and methods used in clinical trials, including phase I to IV clinical trials. Although the class will have emphasis on phase III trials, we will also discuss the feature and statistical issues in phase I and II clinical trials. For phase III trials, we will discuss ways of treatment allocation that will ensure valid inference on treatment comparison. Other topics include sample size calculation, survival analysis and early stopping of a clinical trial and noncompliance.*

### **PHC 6051–Biostatistics Methods II (3 Credits)**

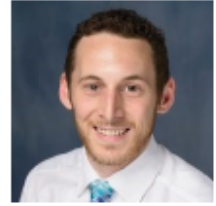
Instructors: Steven Foti, Ph.D. ([fotisj@ufl.edu](mailto:fotisj@ufl.edu))

Location: CTRB 5235

Monday, 1:55-3:50p

Wednesday, 4:05-4:55p

*Biostatistical data analysis using generalized linear models, generalized linear mixed models, semiparametric and nonparametric regression, and neural networks; theory and practice in the health sciences.*



### **PHC 6063–Biostatistical Consulting (3 Credits)**

Instructors: Robert Parker Ph.D. ([rlp176@ufl.edu](mailto:rlp176@ufl.edu))

Location: CTRB 5235

Wednesday, 12:50-2:45p

Friday, 1:55-2:45p

This course covers communication, management, organization, computational and biostatistical thinking skills necessary to consulting in biostatistics.



### **PHC 6937 – Statistical Analysis of Genetic Data (3 Credits)**

Instructors: Rhonda Bacher, Ph.D. ([rbacher@ufl.edu](mailto:rbacher@ufl.edu))

Location: CTRB 5235

Tuesday, 11:45a-1:40p

Thursday, 12:50-1:40p

*An introduction to statistical procedures in human and animal genetics, including Hardy-Weinberg equilibrium, basic linkage analysis, linkage disequilibrium, and association with disease. The goal is to prepare students for potential research in statistical genetics and genomics.*



### **PHC 6937–Frontiers in Biostatistics (3 Credits)**

Course Organizer: Robert Parker Ph.D. ([rlp176@ufl.edu](mailto:rlp176@ufl.edu))

Instructors: Various Biostatistics Faculty Members

Location: CTRB 5235

Wednesday, 10:40a-12:35p

Friday, 11:45a-12:35p

*This course will introduce biostatistics Masters and PhD students to current issues and methods in modern biostatistics research. Current faculty will present selected topics from their current research.*



### PHC 7056 – Longitudinal Data Analysis (3 Credits)

Instructors: Babette Brumback, Ph.D. ([brumback@ufl.edu](mailto:brumback@ufl.edu))

Location: CTRB 5235

Tuesday, 3:00-3:50p

Thursday, 3:00-4:55p

*Likelihood-based and semiparametric methods for longitudinal data and methods to deal with missing data in both settings. Discussion of impact of missing data both theoretically and practically on inference, and approaches to conduct sensitivity analysis for inference.*



### PHC 7066 – Large Sample Theory (3 Credits)

Instructors: Somnath Datta, PhD ([somnath.datta@ufl.edu](mailto:somnath.datta@ufl.edu))

Location: CTRB 5235

Monday, 9:35-10:25a

Wednesday, 8:30-10:25a

*Detailed introduction to large sample theory and its application in univariate and multivariate parametric and nonparametric estimation.*



### PHC 7091 – Advanced Biostatistical Methods II (3 Credits)

Instructors: Susmita Datta, Ph.D. ([susmita.datta@ufl.edu](mailto:susmita.datta@ufl.edu))

Location: CTRB 5235

Tuesday, 9:35-10:25a

Thursday, 9:35-11:30a

*Theory and application for independent and dependent data using generalized linear models and generalized linear mixed models. Bayesian and Frequentist inference. Application using statistical software. Writing data analysis reports.*



More information (including syllabi) about our courses can be found on our website:

<http://biostat.ufl.edu/education/course-descriptions/>

All courses are departmentally controlled and most require instructor approval before a student can be registered. For further information about registering for a course in our department, please contact Kristen Cason ([kcason@ufl.edu](mailto:kcason@ufl.edu)).

