Biostatistics Course Offerings

Fall 2018

PHC 6050C–Biostatistical Methods I (3 Credits)

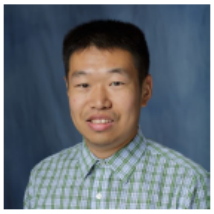
Instructors: Steven Foti, Ph.D. (fotisj@ufl.edu)

Location: CTRB 5235

Tuesday, 12:50-1:40p

Friday, 12:50-2:45p

This course is the first in a two-course sequence that provides students with the fundamentals of biostatistical data analysis. The main emphasis of the course is on linear models, focusing on the theory and practice of regression and analysis of variance. Specific topics include simple and multiple regression for quantitative and categorical data, random effects models for correlated data, factorial and block designs, and nonparametric regression. Students will learn to use the statistical package R for data analysis.



PHC 6068–Biostatistical Computing (3 Credits)

Instructors: Zhiguang Huo, Ph.D. (zhuo@ufl.edu)

Location: CTRB 5235

Monday, 12:50-2:45p

Wednesday, 1:55-2:45p

This course is intended to develop your ability to perform statistical computing. The course will focus primarily on the R programming language using the RStudio interface, both of which are free and open-source software programs. The course will cover programming topics (vectorization, data input and output, object-oriented programming, and building R packages), statistical and computational methods (visualization, optimization, simulation, resampling, classification, and modern statistical methods such as LASSO and ElasticNet), and direct integration and dynamic reporting using LaTeX and R through programs such as Sweave and knitr. Additionally, this course will include the use of high-performance computing resources at the University of Florida such as HiPerGator.

PHC 6092–Biostatistical Theory (3 Credits)

Instructors: Yang Yang, Ph.D. (yangyang@ufl.edu)

Location: CTRB 5235

Monday, 9:35-10:25a

Wednesday, 9:35-11:30a

Concepts and principles of statistical theory, including probability and random variables, parameter estimation, confidence intervals, hypothesis testing, asymptotic analysis, Bayesian inference, statistical decision theory and linear models.

PHC 6022–Design and Conduct of Clinical Trials (3 Credits)


Instructors: Meenakshi Devidas, Ph.D. (mdevidas@ufl.edu) and

Arlene Naranjo, Ph.D. (anaranjo@cog.ufl.edu)

Location: HPNP G301

Monday, 1:55-3:50p

Wednesday, 1:55-2:45p

This course focuses on various study designs, including phase I-IV, single-arm, crossover, factorial, and sequential multi-stage, plus the means to allocate study participants to appropriate treatment groups using randomization (blocked or stratified) and prognostic factors. In addition, the protection of study participants and the need for equipoise is covered, including regulatory restrictions and the latest patient privacy regulations for the dissemination and use of data associated with the participants in clinical trials. The importance of informed consent and the use of intent-to-treat analysis will also be emphasized.

PHC 6937–Biostatistical Computing Using SAS (3 Credits)

Instructors: John Kairalla, Ph.D. (johnkair@ufl.edu)

Location: CTRB 5235

Tuesday, 11:45a-12:35p

Thursday, 11:45a-1:40p

The purpose of this course is to introduce and prepare students for biostatistical computing using the SAS statistical software. It builds on the knowledge obtained in the Biostatistical Methods I and II courses by reinforcing the material and focusing on application within the SAS framework. This will prepare students for future SAS programming and analysis needs within future coursework, graduate assistantships, as well as for future marketability and employment. Topics covered include data management, frequency tables, linear and non-linear models, longitudinal data analysis, Matrix programming, simulation, and using SAS macros.

PHC 6937 – Introduction to Applied Survival Analysis (3 Credits)

Instructors: Natalie Dean, Ph.D. (nataliedean@ufl.edu)

Location: HPNP G210

Tuesday, 4:05-4:55p

Thursday, 3:00-4:55p

This course discusses "time to event" data, where the event can be response to treatment, relapse of disease, or death. Often we wish to quantify the relationship between the time to event and prognostic factors such as mode of therapy, age of patient, and severity of disease. This course will cover inference for a single population, methods for comparison of two or more populations, and methods for conducting regression analysis. Procedures will include the Kaplan-Meier estimator, the log-rank test, and Cox proportional hazards regression.

Please note: This course is intended for students from non-statistical majors.

PHC 6937 – Biostatistical Literacy (3 Credits)

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

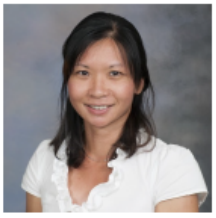
Location: HPNP G114

Tuesday, 5:10-6:00p

Thursday, 5:10-7:05p

Research in the health sciences requires appropriate study design, statistical analysis and interpretation of results. This course covers concepts and techniques, including survival data, multiple-group comparisons, and non-linear regression, necessary to read, interpret, and critically evaluate statistical results in health science literature relevant to the interests of the student. This course offers no formal training in statistical software.

PHC 7090 – Advanced Biostatistical Methods I (3 Credits)



Instructors: Yueh-Yun Chi, PhD (yychi@ufl.edu)

Location: CTRB 5235

Tuesday, 9:35-11:30a

Thursday, 10:40-11:30a

Theory and application for estimation and hypothesis testing for independent data using linear models. Principles of Frequentist and Bayesian estimation and inference. Application using statistical software. Writing data analysis reports.

PHC 7925 – Biostat Journal Club (1 Credit)

Instructors: Susan McGorray, PhD (spmcg@ufl.edu)

Location: CTRB 5235

Tuesday, 4:05-4:55p

This class will meet weekly to present, review and discuss current articles in biostatistics or statistics journals or discipline-specific (e.g. medicine, public health, epidemiology) articles with substantive biostatistical content.

STA 6177 – Applied Survival Analysis (3 Credits)

Instructors: Robert Parker, Ph.D. (rlp176@ufl.edu)

Location: HPNP G314 (Tuesdays), HPNP G312 (Thursdays)

Tuesday, 4:05-4:55p

Thursday, 3:00--4:55p

This course discusses "time to event" data, where the event can be response to treatment, relapse of disease, or death. Often we wish to quantify the relationship between the time to event and prognostic factors such as mode of therapy, age of patient, and severity of disease. This course will cover inference for a single population, methods for comparison of two or more populations, and methods for conducting regression analysis. Procedures will include the Kaplan-Meier estimator, the log-rank test, and Cox proportional hazards regression.

Please note: This course is intended for students from statistical or other quantitative majors (statistics, biostatistics, etc).

PHC 6937 –Analysis of Multivariate Data (3 Credits)

Instructors: Subha Guha Ph.D. (s.guha@ufl.edu)

Location: CTRB 5235

Monday, 11:45a-12:45p

Wednesday, 11:45a-1:40p

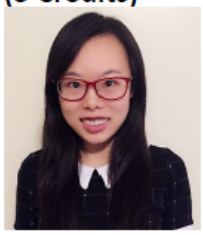
This course covers linear models methodology including simple and multiple regression and analysis of variance including factorial and block designs. This course covers regression for categorical data, random effects models for correlated data, and nonparametric and semiparametric regression.

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).

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:

PHC 4094 – Introduction to Biostatistics for Health Science and Public Health (3 Credits)



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

Location: HPNP G101

Tuesday, 3:00-3:50p

Thursday, 1:55-3:50p

Methods and public health applications for analysis of variance, correlation, simple linear regression, multiple linear regression, nonparametric and distribution-free statistical methods, and some basic concepts about survival analysis. Public health applications using statistical software. Writing data analysis report

Please contact Meredith Nappy (m.nappy@phhp.ufl.edu) to request registration for this course.

PHC 6937 – Public Health Computing (3 Credits)

Instructors: Robert Parker, Ph.D. (rlp176@ufl.edu)

Location: HPNP G111

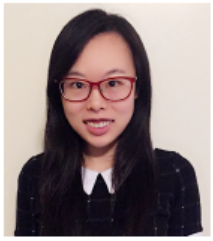
Monday, 3:00-3:50p

Tuesday, 12:50-2:45p

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 Robert Parker for instructor approval and forward it to Bridgette Sullivan (b.sullivan@phhp.ufl.edu) to request registration for this course.

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



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

Location: HPNP G112

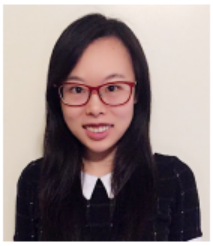
Monday, 4:05-4:45p

Wednesday, 3:00-4:55pm

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) to request registration for this course.

PHC 6052 – Introduction to Biostatistical Methods (3 Credits)



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

Location: HPNP G111 (Mondays) & HPNPG117 (Thursdays)

Monday, 5:10-6:00p

Thursday, 4:05-4:55p and 5:10-6:00p

This 3-credit course is a sophisticated introduction to the concepts and methods of biostatistical data analysis. The topics include descriptive statistics, probability, standard probability distributions, sampling distributions, point and confidence interval estimation, hypothesis testing, sample size estimation, one and two-sample parametric and non-parametric methods for analyzing continuous or discrete data, and simple linear regression. The SAS statistical software package will be taught in this class for data management and statistical analyses.

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