DEPARTMENT: Biostatistics and Bioinformatics

COURSE NUMBER: 501  SECTION NUMBER: 001  SEMESTER: Winter

CREDIT HOURS: 3

COURSE TITLE: Biostatistical Methods II

INSTRUCTOR NAME: Paul Weiss

INSTRUCTOR CONTACT INFORMATION

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SCHOOL ADDRESS OR MAILBOX LOCATION: GCR 308

OFFICE HOURS: Tuesdays 10-12 or by appointment

BRIEF COURSE DESCRIPTION

Addresses estimation and hypothesis testing within the context of the general linear model. Examines in depth the analysis of variance, multiple regression, and logistic regression. Previews select advanced techniques.

LIST SCHOOL LEVEL, DEPARTMENT, AND/OR PROGRAM COMPETENCIES

(School, Department)
Use analytic reasoning and quantitative methods to address questions in public health and population-based research
Develop the capacity for lifelong learning in public health

ACADEMIC HONOR CODE
The RSPH requires that all material submitted by a student in fulfilling his or her academic course of study must be the original work of the student.
LIST LEARNING OBJECTIVES ASSOCIATED WITH THE COMPETENCIES

BIOS 501 picks up where BIOS 500 leaves off, and provides students who have already mastered fundamental concepts with an opportunity to develop mastery of more advanced techniques and concepts. Statistical modeling is used in every aspect of public health, from forecasting models applied to data for policy and management, to modeling relationships between exposures and outcomes while adjusting for confounders in environmental, behavioral and epidemiological studies. Students in this course will develop the analytical skills, but also through the midterm project, receive critical training in technical writing and manuscript preparation under game conditions with a real-world dataset. Students will be exposed to messy data problems like missing and mismeasured data, non-normal outcomes, data management issues and model selection decisions – all of which are commonplace in public health research settings.

EVALUATION

Evaluation of students is based on three components. The first component, regular homework assignments, are assessed through homework quizzes. The second component is a midterm project involving analysis of a real-world dataset and completion of a three-page paper detailing the student’s methods and results. The third component is a final exam. Grades are assigned based on a straight scale (e.g. [96-100] = A, [91-96) =A-, etc.). Students are provided with complete solutions for each homework set, and the answers to the quizzes are posted or discussed in class. The final exam and quizzes are administered via Scantron form (graded by the University’s testing service) and Scantron forms are maintained by the professor to reduce paper wastage. The midterm paper is graded for content and accuracy. Students receive considerable feedback from the graders on their papers to help them improve their writing and attention to critical details.