Health Policy 750 (Introduction to Statistical Methods) & PB 733 (Business Statistics)

Tuesdays, 5:00 - 8:00pm
August 31 - December 14, 2004
Griffith #110A
3 Credit Hours

Syllabus

Instructors:
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Course Description:

This introductory graduate level statistics course is geared to skills and methods used in health-related research with a policy and/or business orientations. The course will cover descriptive statistics, probability, random variables, estimation, sampling, hypothesis testing, and chi-square tests. An orientation to multivariate regression will also be provided at the end of the course. This course is the first part of a two-course sequence (with HP760).

Course Objectives:

After this course, students will:

1) understand the basic language of statistics;
2) develop and use statistical reasoning skills;
3) apply an understanding of statistical concepts to analyzing data; and
4) be able to critically disseminate related quantitative research in health policy and related business contexts.

Course Structure:

Dr. Glass will teach weeks 1-7 and Dr. Metraux will teach weeks 8-14. Each half of the class will account for 50% of the total class grade.

The following criteria will be used to determine your final grade:

Weeks 1-7:
Group Assignments and Homework (25%)
Mid term (25%)
Weeks 8-14:
Homework Assignments (15%)
Final Exam (35%)

The ***final exam*** will be given during USP's final exam period after regular classes end and at a specific time and place to be announced.

Course Readings:

The required texts for the class are:

Roger Freedman, Robert Pisani, & Roger Purves (2002). *Statistics (3rd Edition).* New York: WW Norton.
Paul Allison (1999). *Multiple Regression: A Primer.* Thousand Oaks CA: Pine Forge Press.

Additional readings of research using methods covered in this class may also be distributed during class. The texts are available either in the USP bookstore or via internet booksellers.

Academic Integrity

Academic integrity is at the center of the educational experience at USP. Students are therefore expected to uphold the highest standards of academic integrity and not engage in nor tolerate academic dishonesty. Academic dishonesty includes, but is not limit to, fabrication, cheating or plagiarism. Any violation of academic integrity will be investigated and, where warranted, the student will receive appropriate sanctions through the University's Student Conduct Process. Please familiarize yourself with the current USP Student Handbook. In particular, adherence to the Student Conduct Policy and Academic Integrity Policy will help to ensure that your learning and living experiences are founded on integrity.

Americans with Disabilities Act (ADA) Compliance Statement

USP supports the educational endeavors of all students, including students with disabilities. ADA defines a disability as a mental or physical impairment that substantially limits one or more major life activities.

If you believe that you have a disability that may impact your ability to fulfill your course or degree requirements, and you would like more information on applying for an accommodation under ADA, please contact the Assistant Dean of Students who serves as the ADA Coordinator at 215-596-8980.

Course Calendar

This calendar provides a tentative schedule for the course. Topics may be revised as needed.

Part I: (Glass)

Week 1: (Aug. 31)
Design of Experiments and Descriptive Statistics
Freedman, chaps. 1-4

Week 2: (Sept. 7)
Descriptive Statistics
Freedman, chaps. 5-8

Week 3: (Sept. 14)
Correlation and Regression
Freedman chaps. 8-12

Week 4: (Sept. 21)
Correlation and Regression
Allison

Week 5: (Sept. 28)
Probablity
Freedman chaps 13-15

Week 6: (Oct. 5)
Change Variability
Freedman chaps 16-18

Monday Schedule – No class (Oct. 12)

Week 7 (Oct. 19)
Other measures of correlation and association
Midterm

Part II – (Metraux)

Week 8: (Oct. 26)
Sampling – Surveys and Chance Errors in Sampling
Freedman, chaps. 19 & 20

Week 9: (Nov. 2)
Sampling – Accuracy of Percentages and Averages
Freedman, chaps. 21-23

Week 10: (Nov. 9)
Measurement Error
Freedman, chaps. 24 & 25

Week 11: (Nov. 16)
Tests of Significance and Tests for Averages
Freedman, chaps 26 & 27

Week 12: (Nov. 23)
Chi-Square Tests
Freedman, chaps 28 & 29

Week 13: (Nov. 30)
Multivariate Regression
Allison, chaps. 1-3

Week 14: (Dec. 7)
Multivariate Regression and Review
Allison, chaps. 4-6

Final Exam: (date/time to be announced)