

Public Health Core 6050 Statistical Methods for Health Sciences 1 FALL 2007

Instructor: Babette Brumback

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Office hours: Tues 1:15-2:15 and Thurs 12:15-2:15 in HPNP 3112 and by appointment (call or e-mail)

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Office hours: TBA

Course meeting times and place: TR Period 4 (10:40-11:30am) and T Period 5 (11:45-12:35) in HPNP 1404

Exceptions: Thurs Nov 22, Thanksgiving

Course Webpage: <http://lss.at.ufl.edu>

Textbook: Students are required to purchase the course textbook, *Statistics: The Exploration and Analysis of Data*, 6th edition, (2008) by R. Peck and J. Devore, Brooks/Cole – Thomson Learning: Belmont, CA.

Homework Solutions Manual: Students are strongly recommended to purchase the homework solutions manual that accompanies the textbook, *Student Solutions Manual, Introduction to Statistics & Data Analysis*, 3rd edition, by R. Peck, C. Olsen, and J. Devore. The manual contains solutions to the odd-numbered homework problems.

Webpage for Textbook: <http://www.thomsonedu.com/> (enter ISBN number and click on the textbook link and then on the Companion Website link)

Software: A student version of SPSS (version 15) is available for \$90 at the University of Florida Bookstore online (this is actually www.journeyed.com). Data analysis assignments will be conducted in SPSS. Those wishing to use SPSS in subsequent work or courses should strongly consider purchasing the Graduate Pack for \$200 at the same website.

Course Goals:

Statistical methods for description and analysis provide investigators with useful tools for making sense out of data. The pervasiveness of statistics in public health as well as other fields has led to increased recognition that statistical literacy – a 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 a statistical vocabulary, learn methods for descriptive data analysis, study the fundamentals of probability and sampling distributions, learn methods for statistical inference and hypothesis tests based on one or

two samples, and become familiar with categorical data analysis and linear regression. Data analysis will be conducted in SPSS.

Learning Objectives: Upon completion of the course, students will be able to

1. Describe the roles biostatistics serves in the discipline of public health
2. Describe basic concepts of probability, random variation and commonly used statistical probability distributions.
3. Describe preferred methodological alternatives to commonly used statistical methods when assumptions are not met.
4. Distinguish among the different measurement scales and the implications for selection of statistical methods to be used based on these distinctions
5. Apply descriptive techniques commonly used to summarize public health data
6. Apply common statistical methods for inference
7. Apply descriptive and inferential methodologies according to the type of study design for answering a particular research question.
8. Apply basic informatics techniques with vital statistics and public health records in the description of public health characteristics and in public health research and evaluation.
9. Interpret results of statistical analyses found in public health studies.
10. Develop written presentations based on statistical analyses for both public health professionals and educated lay audiences.

Assessment Plan:

One two-hour in class midterm: 25%

Five data analysis assignments: 50%

One two-hour in class final: 25%