PUBH 701 Course details- Biostatistics for Public Health

Course Description

Biostatistics in public health relates statistical information to real health issues affecting human populations. This course covers the design, analysis and interpretation of interventions as they relate to the development process of public health policy and priorities. Topics include graphical and numerical methods of describing data sets, an introduction to probability distributions, estimation, hypothesis testing; analysis of variance; analysis of covariance; repeated measures anova; correlation and regression analysis; multiple regression, logistic regression; meta-analysis; analysis of categorical data; non-parametric analysis. Discuss and interpret statistical procedures described in published articles.

Textbook : (Class text)


Course Specific Objectives:

Upon completion of this course, students will be able to:
1. Describe basic concepts of probability, random variation, confidence intervals, commonly used statistical probability distributions and hypothesis testing.
2. Describe preferred methodological alternatives to commonly used statistical methods when assumptions are not met.
3. Apply common statistical methods for inference. Interpret results of statistical analyses found in public health studies.
4. Apply descriptive techniques commonly used to summarize public health/biological data.
5. Apply descriptive and inferential methodologies according to the type of study design for answering a particular research question.
6. Read, construct, and analyze charts, graphs, and contingency tables.
7. Compute parameter estimates, confidence intervals and fit statistical models using statistical software.
8. Interpret confidence intervals and p-values correctly.
9. Gain experience using computer technology in the application of statistical procedures.
10. Know when and how to apply common parametric/non-parametric statistical tests.
11. Develop written and oral presentations based on statistical analyses.

Course Assessments

1. Weekly Homework’s – 10
2. Quiz - 10
3. Exams – 2