

California State University, Northridge  
Department of Health Science  
Spring 2001, Wednesday 4-7 pm  
KN 276  
Ticket # 32036

**Health Science 592**  
**Advanced Biostatistics for the Health Sciences**  
**Spring 2001**

Course Instructor: Vicki J. Ebin, Ph.D.  
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Office Hours: Tuesdays 6:30-7:00pm; Wednesdays 1:30-3:00pm; Thursdays 10:30am-12:00pm

**Course Description:**

The purpose of this course is to provide health education students with the understanding and ability to use statistical methods and reasoning in their chosen discipline. This course combines data collection, design of data gathering instruments, data analysis, and report writing into a practical method of understanding the role of statistics in the field of health education. The students will design their own questionnaire, administer the instrument, enter the data, and analyze the data with a final report due as the end result. The project will focus on the Student Health Center, and health prevention issues, that may impact health education policy at California State University, Northridge. This course provides students with the experience of applying the theory and methods of health education to “real world” health issues. The course uses an intensive student-instructor interaction approach in the actual preparation, implementation and analysis of the student project. The service-learning project approach encourages the exploration and analysis of the many dimensions of health education practice as it is involved in identifying and solving university health problems.

**Course Objectives**

By the end of the course the student will be able to:

1. Identify current school and community health problems and the role of health educators as they are involved in those problems.
2. Collaborate with health officials to respond to the needs of the university community.
3. Design and implement assessment instruments used in the process of community analysis and educational diagnosis.
4. Design a data entry program.

5. Code an assessment instrument in preparation for data entry and analysis.
6. Enter and clean the data into the selected program.
7. Implement individual statistical analyses of stated research project.
8. Interpret the analyses to determine the relevance of the statistical findings.
9. Prepare a report elaborating upon the significance and implications of the findings to the university community. Incorporate policy and health education suggestions.
10. Present individual work to peers and community partner.
11. Reflect upon activities and ability to connect course material to community needs.

**Required Text:**

SPSS 10.0 Guide to Data Analysis Norusis

SPSS 10.0 for Windows. Brief Guide.

**Highly Recommended Text:**

SPSS 10.0 for Windows.

SPSS 10.0 CD Rom, Student Statistical Package

Any Basic Statistical textbook.

## Course Outline

<u>DATE</u>	<u>TOPIC</u>
Jan. 31	Overview of Course Content, discuss possible topics for the research instrument. Brainstorm research instrument content areas. Prepare a literature review of possible content areas for the next class session. Begin Computer tutorials. Overview of SPSS.
Feb. 7	Read SPSS Brief Guide. Review Basic Concepts. Discuss research issues in study design and implementation. Small group discussion of content areas.
Feb. 14	Read Guide Chapters 1-2. Decisions of sampling. Small group discussion of content areas. Discuss first version of research instrument. Finalize research instrument. Review basic statistical concepts. <b>Assignment:</b> Write a research question based upon the survey instrument, due Feb. 21 <sup>st</sup> .
Feb. 21	Begin data collection this week through March 7. Read Guide Chapters 3-4. <b>Assignment:</b> Describe the Conceptual Framework of your Research Proposal, due Feb. 28 <sup>th</sup> .
Feb. 28	Continue data collection. Review data editing and coding. Discuss problems and issues. Read Guide Chapter 5.
Mar. 7	Data entry. Read Guide Chapter 6.
Mar. 14	Continue data entry. Data cleaning techniques. Read Guide Chapter 7.
Mar. 21	Where do we start? Read Guide Chapters 8,9 & 16. <b>Assignment:</b> Frequencies of your research variables, due Mar. 28 <sup>th</sup> .
Mar. 28	Preliminary analyses. What questions are you asking? Read Guide Chapters 10-13. <b>Assignment:</b> t-tests, crosstabs (Chi Square), due Apr. 4 <sup>th</sup> . <b>Project Proposal due at the beginning of class.</b>
Apr. 4	Linear Regression. Begin Multiple Regression. Read Guide Chapters 18-21. <b>Assignment:</b> Linear Regression, due Apr. 18 <sup>th</sup> .
Apr. 11	Spring Break, no class!!!!
Apr. 18	Logistic Regression. Multiple Regression (con't). Read Guide Chapters 22-23. <b>Assignment:</b> Logistic Regression, due Apr. 25 <sup>th</sup> .
Apr. 25	One-Way Analysis of Variance. Read Guide Chapter 14.

May 2	Two-Way Analysis of Variance. Read Guide Chapter 15.
May 9	Nonparametric tests. Preparation of policy statement for the university. Discussion of research findings and implications. Read Guide Chapter 17.
May 16	Begin Student Oral Presentations.
May 23	Student Oral Presentations (con't), 5:30-7:30pm. <b>Paper due at the beginning of class.</b>

### Student Evaluation

Students' grades are based upon the following:

- **Project Proposal due March 28th.** This proposal is a short overview of the student's class paper. The student must include a brief introduction, purpose of the paper, and hypotheses to be addressed. A conceptual framework and proposed analyses must also be included in this short paper. **(100 points)**
- **Project Paper due in class on May 23.** Each student is required to submit a comprehensive project paper. The student must include a thorough introduction and literature review, problem statement, methodology, result section, discussion and policy implications. Papers will be evaluated for grammar, punctuation, spelling, conceptual and intellectual design, as well as the required project elements. **(200 points)**
- **Oral Presentation.** Each student will present his/her research on May 16 or May 23. The presentation will address research findings, policy implications, suggestions for future research, and a tangentially related topic assigned prior to the presentation. **(100 points)**
- **Participation.** Based upon class discussion, participation in data collection activities, homework assignments. **(40 points)**
- **Reflection Paper.** A short, 3-4 page paper discussing your experience in the community project. How did the community project impact your understanding of the course material? How has this experience affected you as a future MPH? What skills have you gained? What suggestions do you have for future student involvement in community health education projects? **(60 points)**

A detailed description of each grading component will be distributed at a later date.

### Grade Distribution (Total Points Possible is 500)

A =	95%-100%
A- =	90%-94%
B+ =	87%-89%
B =	84%-86%
B- =	80%-83%
C+ =	77%-79%
C =	< 77%