This course is designed to provide students an opportunity to review and discuss the conceptual framework, research methodology, research design, implementation, and evaluation aspects of previous and ongoing community/patient health education programs. The course will emphasize the identification, application and understanding of various research methods used to design, implement and evaluate community-based education programs.

**Thursday: Lecture/Discussion Format**

The lecture will address research methods to be considered in the development, conceptualization, implementation and evaluation of community-based research programs. The Course Reader contains selected large-scale health education/health promotion community-based studies, such as the Stanford 3-Community Project, the Stanford 5-City Project, and other community based intervention programs. These readings will form the basis of class discussion each Thursday. The lecture/discussion session will also cover evaluation concepts, including evaluation terminology, evaluating program effectiveness, selecting an evaluation design, sample size determination, establishing a comparison group, issues in data collection, evaluation techniques, reading frequencies, tables, descriptive statistics, analytical methods, and reliability/validity assessment. These concepts will be integrated into the Tuesday laboratory discussion sessions.

**Tuesday: Laboratory/ Discussion Format**

The laboratory session will meet each Tuesday from 8-10:50 am. The Special Reader will give a 60-90 minutes overview of the lab assignments for that day, followed by 30-60 minutes for student article presentations and discussion. Afterwards, students will have 50-60 minutes to
work in groups for lab assignments. Students who have a 10:00 am class on Tuesdays can leave early and continue on their own to finish their lab assignments later that week. The SPSS Guide to Data Analysis and the Data Files used in the assignments will be used throughout the laboratory sessions. You will set up a data file, run SPSS for Windows, define your data, conduct simple descriptive univariate statistics, summarize your data, conduct bivariate analysis, change the coding scheme, test hypotheses about two independent means/two dependent means, comparing several means (ANOVA), measure associations, interpret correlation coefficients, calculate reliability coefficients, and test regression hypotheses. Please bring a flash drive to the computer lab on the first day and following sessions to download programs as well as to save laboratory assignments throughout the quarter.

Each student will be given a research article that pertains to the current test(s) covered in the homework (a sign-up sheet will be distributed during week 1). The student is responsible for giving a short synopsis of the independent/dependent variables, research question and major hypothesis being tested. Students will then discuss how specific significance tests were used to answer the research questions. Finally, the student will comment on the appropriateness of the test for the question and available data.

This will allow time to review questions from the homework, review the concepts for the next homework, and prepare for the presentation of the relevant research article with discussion. Those students who have a 10am class can leave and those who stay can start work on the homework and get assistance.

Pre-Final Exercise and Final Exam

Pre-final Exercise
Laboratory exercises will be turned in each week, up to the seventh week of class. Then, a new data set (HIV/AIDS Prevention in the Philippines) will be available with new exercises. The data set is from an ongoing research program in the Philippines. You will be given a laboratory exercises on the Philippines data set to complete prior to receiving the go signal for your final laboratory exam. The questionnaires and code books for the HIV/AIDS Philippines Longitudinal Research Project will also be available at this time on the web. The data sets will be used by all students during weeks 8-10, as described below. Additional readings include reliability and validity assessment, scaling, and sample size determination, and will be included on the web.

Final Exam
Your final exam is already included in this syllabus and once you have completed all lab assignments and the lab exercise on the Philippines data set, you can begin your final exam. For the final exam, students will be requested to pose your own research questions, develop several hypotheses and use the skills you have learned throughout the class to answer these research questions. Performance will be based on how thoroughly you have used the available data and how results, interpretation and discussion are presented.
Evaluation

Laboratory Exercises 40%
Lab Presentation 10%
Pre-Final Exercise 15%
Final Exam (take home) 35%

TOTAL 100%

LECTURE SCHEDULE

Week 1
9/24 The class will meet on Thursday, September 24 to review the syllabus, scope of the course, readings, assignments, evaluation criteria, etc. Introduction and research related experiences will be discussed to give you an idea of how this class will equip you with the skills and methodological competencies necessary for solid scientific program design and evaluation. Please feel free to make an appointment with the instructor during orientation week.

Week 2
10/1 Overview of the laboratory component of the course, availability of the Grad Pak at Ackerman for SPSS; assignments, grading, and student presentations.
Overview of the scope of the course, requirements, expectations and evaluation criteria, discussion of evaluation concepts, and overview of the Stanford 3-community Program (Shea and Basch articles, 01 and 02).

Week 3
10/8 Evaluation Research: Domains and Interest Groups, Stanford 5-City Program (Farquhar JW, et al. (06); Fortmann, et al., (07)

Week 4

Week 5
10/22 Understanding Reliability and Validity—exercises and discussion—class handouts: Key Questions for Various Articles-Part 1.pdf; Application of Principles from the Readings-Part II.pdf; Reliability Recap.doc; Validity Recap.doc; Autonomy Factors.doc; Autonomy Figure 1.doc; Autonomy Figure 2.doc; Autonomy Figure 3.doc; —[14]. Morisky et al., 2002; Continued discussion on reliability assessment, factor analysis, and application of scaling principles and analytical methods, and social desirability.
Week 6  Measurement Issues in Data Collection (Sample Size Determination; [15]

Week 7  Data Collection Methods and Simple Methods to Analyze Program Data;
11/5  Discussion of lessons learned and homework assignments on reliability and
      Program Effectiveness - [12]. Morisky et al., 1983; [13]. Morisky et al., 1986;

Week 8  Discussion of lessons learned and homework assignments on reliability and
11/12  Program Effectiveness to prepare for final paper. Readings [100-105].

Week 9  Discussion of lessons learned and homework assignments on reliability and
11/19  Program Effectiveness to prepare for final paper. Readings [106-110].

Week 10  Happy Thanksgiving
11/26

Week 11  Evaluation concepts, including evaluation terminology, evaluating program
12/3  effectiveness, selecting an evaluation design. Establishing a comparison group,
      issues in data collection, evaluation techniques, reading frequencies, tables,
      descriptive statistics. Discussion of statistical methods used to explain outcome
      assessments, such as regression modeling.

COURSE READER I: TABLE OF CONTENTS

01. Shea S, Basch CE. A review of five major community based cardiovascular
    disease prevention programs. Part I: rationale, design, and theoretical framework.

02. Shea S, Basch CE. A review of five major community based cardiovascular
    disease prevention programs. Part II: Intervention strategies, evaluation methods, and

03. Leventhal H, Safer MA, Cleary PD, Gutmann M. Cardiovascular Risk
    Modification by Community-Based Programs for Life-Style Change: Comments on

04. Kasl SV. Cardiovascular risk reduction in a community setting Some

05. Meyer AJ, Maccoby N, Farquhar JW. Reply to Kasl and Leventhal et al. J of
    Consulting and Clinical Psychology 1980; 48:159-163.


**Other Community-Based Intervention Programs**


**Readings from the HIV/AIDS Prevention Community-Based Program in the Philippines that provide more background information and impact and outcome results of the longitudinal study.**


**LAB SCHEDULE**

In addition to the weekly homework assignments, the following articles will be discussed during the corresponding lab session. Please read them before the lab to maximize your understanding of the material and ability to participate in discussion. Articles will be available on the course web-site.

<table>
<thead>
<tr>
<th>Date due</th>
<th>Article (Author/Title)</th>
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<tbody>
<tr>
<td><strong>Week 1</strong></td>
<td>No article due the week Introduction of the Special Reader, office hours, assignment expectations, Lab orientation, logging on to SPSS, navigating the system, use of the tutorial, and other things to help get you started.</td>
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</tbody>
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| **Week 2** | 01 Deichmann et al. (1999). *Improvements in Diabetic Care as Measured by HbA1c After a Physician Education Project.*  
05. Young and Hade (2006). *Holidays, Birthdays, and Postponement of Cancer Death*  
08. Lauby et al. (2000). *A Community-Level HIV Prevention Intervention for Inner-City Women: Results of the Women and Infants Demonstration Projects.*  
<table>
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<tr>
<th>Week 5</th>
<th>Chapters 15-17 10/29/2009</th>
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<tr>
<td>One-way ANOVA and Tukey correction</td>
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<td>Two-way ANOVA</td>
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<th>Week 6</th>
<th>Chapters 18-20 11/3/2009</th>
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<tr>
<td>Chi-square and Somers’ d</td>
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<td>Linear Regression</td>
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<td>Wilcoxon paired test and Mann-Whitney</td>
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<td>Wilcoxon rank sum and Kruskal-Wallis</td>
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<th>Week 7</th>
<th>Chapters 21-23 11/10/2009</th>
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<tr>
<td>Multiple Regression</td>
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<th>Week 8</th>
<th>11/17/2009</th>
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<tr>
<td>Turn in last HW assignment</td>
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<tr>
<td>Review additional SPSS procedures</td>
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<tr>
<td>Receive Pre-Final Exercise</td>
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Week 9
11/24/2009  Research questions/Hypotheses due
Review additional SPSS procedures
Work on Pre-Final Exercise

Week 10
12/1/2009  Pre-Final Exercise due (on or before this date)
Review additional SPSS procedures
Receive Final Exam

Finals Week
12/14/2009  Final Exam due on or before 12pm on December 14, 2009
NOTE: A HARD COPY of the entire exam must be received on or before Monday, December 14, 2009. Please e-mail your entire exam (including syntax) to both the Special Reader and Dr. Morisky by December 14, 2009.

Additional Readings will be added and/or students can identify their own readings for class presentation/discussion

Laboratory Homework Assignments-SPSS 17.0 Guide to Data Analysis

<table>
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<tr>
<th>Week</th>
<th>Content</th>
<th>Exercise</th>
<th>Due</th>
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</table>
| Week 2: 10/6/2009 | Chapters 4-5. | Statistical Concepts - #4.1, 4.3, #5.2, 5.9
Data Analysis: #4.1, 4.5, 4.12, #5.4, 5.6 | 10/13/2009 |
Data Analysis: #6.6, #7.4, #8.7, #8.20; #9.10, #10.1 | 10/20/2009 |
Data Analysis: #18.4, #19.7, #20.3, 20.5 | 11/10/2009 |

Week 8-10. Once all assignments have been turned in, students will be given the Philippines HIV/AIDS data set. Use this time to become familiar with this new data set. You will have to merge three data sets in order to calculate change scores. You will be given two laboratory exercises to complete prior to receiving your final laboratory exam on this data set.
The purpose of the laboratory presentations is to reinforce content discussed in the laboratory sessions. Additionally, the purpose is to allow for interaction among students and the teaching assistant. Therefore, active participation (i.e. questions and constructive feedback) are expected and encouraged. Remember, constructive feedback pertains to feedback regarding the methods used in the papers, not necessarily your classmates’ presentation styles. Presentations do NOT need to be formal (i.e. PowerPoint, etc.).

Please adhere to the following guidelines in the preparation of your presentation.

- What is the problem being researched in the article?
- What is the explicit research question?
- What is the purpose of the research?
- What is/are the research hypothesis/es
  - This should be stated such that it is pertinent to the type of test used or covered from the week prior.
  - Keep in mind that the study hypothesis/es may be different from the hypothesis/es for the tests being used.
  - State both the null and alternative hypotheses.
- What are the variables used (i.e., independent and dependent variables)
- What types of variables are they?
- What type of test was used? What is the null hypothesis of the test?
- What are the assumptions of the test?
  - Were the assumptions met?
- Was the test appropriate?
  - If not, then what would you do differently (i.e. different control variables, etc.)
- What were the limitations of the study?
- Results
- Conclusions
These guidelines are to assist you in preparing your final examination. Prior to this examination, you will have completed a set of pre-final questions designed to help you familiarize yourself with the HIV/AIDS Philippines data set, to be used for this final. In the final, you must develop a research problem of interest, develop the theoretical rationale (based on literature), create an analysis plan, and present the results.

The following assignments are due to Dr. Morisky and the Special Reader electronically:
- Research Questions/Hypotheses due by 11/24/09 by 5:00pm PST
- Pre-Final Exercise due by 12/1/09 by 5:00pm PST
- Final Exam paper due on or before 12:00 pm, PST noon on December 14 PST (both hardcopy AND electronic)

In order for your final Exam paper to be complete, the following MUST be included:

Your Final Exam paper
- Should be 10-15 pages in length
- Output should be included within the text of the paper, not at the very end (appendix style)
- All syntax for your analysis needs to be in the order it appears in the paper, added as an appendix.
- You are to e-mail the paper with Syntax AND deliver a hardcopy (no Syntax) to the Special Reader and Dr. Morisky on or before noon on December 14 PST.

The paper should include:
- A brief introduction/background
  - The introduction should include a description of the purpose of your analysis (research question). You must also include at least three references from the literature, as well as an appropriate theoretical framework and pertinent concepts. This should not be lengthy; however, it should be informative enough to allow a reader to understand the purpose of your analysis.
  - Dr. Morisky has written numerous papers using this data set, which can be found on the class website. It is your responsibility to pull whatever is pertinent for the questions you want to answer with your analysis.
- Detailed methods section (Main part!!!)
  - Include characteristics of the data set (sample and variables to be used).
  - Dr. Morisky has discussed sampling, sample sizes, etc. Use what you know.
  - Include the rationale for the tests to be used
  - Include the assumptions for the tests to be used
  - Include the methods for testing the assumptions.
- Results: Bring it all together.
  - The type of sequential analyses used should be detailed here.
  - Any statistics used should be explained and justified.
  - If you transform variables, that should be mentioned and explained, in detail.
• Discussion:
  o Interpret your results
  o Discuss limitations of the data (including the type of sample, if relevant) or limitations of the analysis
  o Provide alternative interpretations
• Include your bibliographic references