CEP 932

CEP 932 Quantitative Methods in Educational Research I

Please note: Provided as a sample only

The following is provided to you as a sample syllabus for the course. Please note that instructors and dates are subject to change. Course contents, readings and assignments are likely to be updated and may vary. Please check with the current course catalogue http://reg.msu.edu/ for details and contact the instructor of record should you have any questions.

Syllabus
CEP 932: Quantitative Methods in Educational Research I
Spring 2012

Instructor: Dr. Kim Maier
Email: kmaier@msu.edu
Phone: 355-8538
Class time: MW 10:20 – 11:40 AM
Office: 451 Erickson
TAs: Dawn Chang, Liyang Mao, Keyin Wang
Classroom: 226 EH

Course Content

This course provides an introduction to data analysis and statistical inference. Students learn to describe data (quantitatively and graphically), to select and compute statistical estimates and hypothesis tests, to use computer packages to accomplish these tasks, and to interpret and write about the results of the estimates and tests. Knowledge of basic algebra is needed. Higher mathematics (e.g., trigonometry, calculus) is not used.

Grading and Requirements

Grades are criterion-referenced. That is, grades will be assigned based on the percent of the total possible points that you receive. The grade scale is:
4.0 > 90%
3.5 > 80%
3.0 > 70%
2.5 > 65%
2.0 > 60%.

40% - Quizzes
40% - Homework Assignments
20% - Final Exam

The take-home quizzes are openbook and opennote. Quizzes will be made available on the Angel course management system at the end of a class. The content of the quiz will be drawn from the information covered in class since the last quiz (however, since the content of this course is cumulative, knowledge of prior content will likely be necessary for successful completion of the quiz). Students will be notified in class when a quiz is scheduled that day; students will also be sent an email to notify them of the availability and due date of a quiz. Students will hand in a hard copy of the responses to the quiz questions, ***at the beginning of the class*** when the quiz is due. Quizzes submitted after the beginning of the class will be considered late and subject to the late assignment policy.

The course's homework assignments (including the SPSS Module) will typically involve applying what you have recently learned to example problems, often with the use of a provided dataset. These homework assignments will contain tasks and questions that require you to use the statistical software SPSS (see the section below titled "Statistical Software"). Except at the discretion of the instructor (arranged prior to the due date), all assignments must be submitted at the ***beginning of class*** on the day that they are due. Hardcopies of assignments are to be turned in. Homework submitted after the beginning of class will be considered late and subject to the late assignment policy. If you wish, you may work on homework assignments with up to four of your classmates. These

informal homework groups are organized by students and do not have to maintain a consistent membership roster. In other words, your decision to complete homework individually or in a group can be changed back and forth over the course of the semester. If you do decide to work on an assignment with one or more of your classmates, you must submit a single assignment for all members of your group; the assignment must list the names of all group members. All those who worked together on a given homework assignment will receive the same grade for that assignment. Management of group dynamics is the responsibility of the group's members.

Late Assignment Policy

Assignments (homework or quiz) are due at the beginning of class. If you decide to hand in the assignment late, it will be penalized an additional 10% for each day it is late. This means that homework handed in after class starts will be penalized 10%. The homework will be penalized an additional 10% for each subsequent day it is late (e.g., homework that is handed in the day after it is due will be penalized 20%).

Required Textbook:

Hinkle, D.E., Wiersma, W., and Jurs, S.G. (2003). *Applied Statistics for the Behavioral Sciences* (5th ed.). Boston, MA: Houghton Mifflin Co.

Statistical Software

You will be required to use statistical analysis software to complete some assignments. SPSS is available on MSU microlab computers if you are near the main MSU campus or at some MSU satellite locations. SPSS is a Windows package that is primarily menu-driven and is the software that will be used to illustrate analyses during lectures. The current version of SPSS is IBM SPSS 19.0; earlier versions of SPSS should suffice, but when in doubt contact the instructor. If you would like to use a different statistical software program for 933 this semester, please email the instructor right away. Use of non-SPSS statistical programs for homework assignments must be approved by the instructor. There are a number of resources that can be used to learn how to use SPSS:

Field, Andy (2009). *Discovering Statistics Using SPSS* (3rd ed.). Thousand Oaks, CA.

Green, Samuel B. and Salkind, Neil J. (2010). *Using SPSS for Windows and Macintosh: analyzing and understanding data* (6th ed.). Prentice Hall.

Pallant, Julie (2010). *SPSS Survival Manual: A step by step guide to data analysis using SPSS*. Open University Press.

UCLA Academic Technology services webpage: http://www.ats.ucla.edu/stat/spss/

Additional Resources:

A number of students over the past semesters have recommended a number of books that they found helpful. Most of these books could be considered to be a 'more gentle' introduction to statistics. In general, these resources give a broad overview of the subject but do not go into any single topic deeply. While none of these resources would be a substitution for the course textbook, you may find them useful as additional sources. Many are available in the library, either as listed or as earlier editions.

Gonick, L. & Smith, W. (1994). *The Cartoon Guide to Statistics.* Harper Resource.

Kranzler, J.H. (2002). *Statistics for the Terrified (3rd ed.)*. Prentice-Hall.

Levine, D.M. & Stephan D.F. (2004). *Even You Can Learn Statistics: A Guide for Everyone Who Has Ever Been Afraid of Statistics.* Prentice-Hall.

Please note: MSU seeks to ensure that its programs are accessible to all persons. Students in need of special assistance or an accommodation regarding any of the course requirements as outlined in the syllabus and discussed in class are advised to notify me immediately. We will meet privately to discuss a resolution of your issue, which

may or may not include an appropriate referral. Confidentiality will be maintained regarding your special needs.