SOC 2830 - METHODS OF DATA ANALYSIS **Instructor: Michael D. Gillespie**
Fall 2009: CRN 40399, Section 100 **Sangren Hall 2201: T/R: 12:30pm –1:45pm**

Office: 3201 Sangren Hall
Office Hours: T/R: 2:00 - 3:30
or by appointment

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COURSE DESCRIPTION AND OBJECTIVES:
This course is designed to introduce students to the methods that sociologists, criminologists, and other social scientists use to summarize and analyze relationships in numerical data about individual people, such as survey items and demographic characteristics, and rates and counts of social behavior (e.g., crime, unemployment, TANF recipients) for aggregate units of analysis such as nations, states, counties, and cities.

Through this course, each student will learn how to use data analytic methods in the social sciences. Major topics include frequency distributions, graphical presentations of data, measures of central tendency, measures of variability, cross-tabulation, statistical inference (significance tests), and bivariate regression and correlation.

The specific course objectives include:

- Overcome students' anxieties and fears of working with numbers
- Improve students' critical thinking and problem solving skills
- Enhance students' computer skills through use of SPSS to manage and analyze data
- Develop students' competence in calculating basic descriptive and inferential statistics using a hand calculator and SPSS
- Develop students' competence in interpreting basic descriptive and inferential statistics
- Develop students' competence in using graphs and charts to summarize quantitative information

By the completion of this course, you will:

- Be able to calculate the appropriate measures of central tendency and variation for variables in a data set
- Be able to analyze your own data using SPSS
- Be able to test hypotheses using the appropriate significance tests
- Be able to present research results in tables, or in graphs or charts
- Be able to write about your research findings in an appropriate manner
- Be able to critique quantitative research conducted by other social researchers

Required Text:
Healey, Joseph F. 2009. *Statistics: A Tool for Social Research*. Belmont CA: Thompson Wadsworth.

Additional Required Items:

1. A Scientific Calculator

2. Access to and use of SPSS
   Campus public computing sites, such as the computing wing of the Waldo Library and the Bernhard Center, have SPSS for student use. Additionally, students can rent a 6-month version of SPSS Grad Package Base for $45.99 at e-academy following this address:
   http://www.onthehub.com/spss/spss_6MonthRentals.htm

3. Access and knowledge of Blackboard is important for course announcements, discussion groups, and grade feedback. Additional class materials, if available, will also be posted prior to each class session.

Course Requirements: **500 Total Points**

Below is a list of the course assignments with total point values and due dates. Each item listed is required. A detailed assignment guide will be provided on Vista.

Graded Requirements:

Weekly Homework Assignments (12 assignments, 15 points each, 180 total): Each student will complete a series of homework assignments each week. The assignment will be given in class each Thursday and is due the following Tuesday ***at the beginning of class***.

Midterm Exam (100 points): The midterm exam will cover the first five chapters of the text and will be on Thursday October 15, 2009 during the normal class period. The midterm exam will be in two parts: an in-class section of multiple choice and short answer questions, and a take-home portion of statistical computations and analyses. The take-home portion will be due on Tuesday October 20, 2009 at the beginning of class.

Final Exam (150 points): The final exam is Monday December 14, 2009 from 2:45 to 4:45 pm. Because statistics is a cumulative process, the final exam is cumulative as well. The final exam will be in two parts: an in-class section of multiple choice and short answer questions, and a take-home portion of statistical computations and analyses. The take-home portion will be due on Thursday December 17, 2009 by noon.

Analysis Paper (70 points): Each student will complete an analysis of real data through the General Social Survey. A detailed guide for this paper will be provided separately.

Additionally, there are multiple unannounced 'in-class' assignments that you must be in attendance to complete. These assignments are typically worth 5 to 10 extra credit points.

*NOTE: **NO LATE ASSIGNMENTS WILL BE ACCEPTED**. Every effort should be made to turn in assignments on time. If you know that you will be absent from lecture the day an assignment is due, you can email the assignment prior to the class period,*

give it to a classmate to turn in for you, or leave it in my mailbox in the Sociology Mailroom, 2515 Sangren Hall.

Based on the requirements, there are 500 points to be earned in this course. Final letter grades are based on the following scale:

A = 462-500	BA = 437-461	B = 412-436	CB = 387-411
C = 362-386	DC = 337-361	D = 312-336	E = < 312

At any moment in the semester, you can gauge your progress in the course by taking the total amount of points you have earned divided by the total amount of points possible to that point. I will also attempt to keep your grades up to date on Blackboard.

Grading FAQ:

Question: *Do you grade on a 'curve'?*

Answer: No. I grade on absolute points; a grading curve is simply grade inflation.

Question: *Can I earn extra credit?*

Answer: Any opportunities for extra credit will be afforded to all students in the course and at the discretion of the instructor.

The Importance of SPSS:

Each week's homework will include an SPSS portion. At the end of each chapter there is a section devoted to SPSS, demonstrating its use, and then a series of exercises. You are expected to use this material to aid in completing each week's assignment. Therefore, you are expected to read, along with the rest of the chapter, the section on SPSS.

We will not do much with SPSS during lecture, so it is up to you to practice using the program. You will have to use it to complete the data analysis paper; therefore it is in your best interest to keep up with the SPSS homework.

We will be holding a mandatory class session specifically for the introduction of and use of SPSS.

September 15, 2009*: *Mandatory Class Session* - *Sangren Lab 1107

Other Expectations:

What is 'Class Participation'?

Class participation is analogous to class *engagement*. Engagement in this course is exercised through your continued productive contribution to the course – reading assignments are completed, assignments are finished and submitted on time, and you come to class ready to be engaged. Engagement in the course is both critical to your personal success and the success of the group.

If you are going to be absent from a class session and have a legitimate reason for missing class (emergency, illness, death, etc.), please *contact me by email prior to the start of class*. It is your responsibility to be accountable for your attendance and engagement in the class. While I do not take attendance, in-class assignments cannot be made-up; providing a legitimate justification for missing class and a possible assignment is necessary.

You are expected to attend every class.

Learning statistics is not like other courses you have taken in your major. Rote memorization and cramming the night before the exam will **NOT** work in this class. Each part of the course systematically builds on all the material preceding it, so missing any part sets you up to fail in all subsequent parts. Also, the more practice you have working problems the better. So attending class is very important to your success.

General Classroom Policy.

In all of my classes, I strive to provide a positive and productive learning environment for students. It is important that we all act in a respectful manner toward each other and do not disturb the class.

Accordingly, I ask your cooperation in observing the following rules.

- Arrive on time.
- Do not come and go during the class period. This is disrespectful and disruptive for me and your fellow students. If you must go to the restroom, do so quietly, causing as little disruption as possible.
- Observe the cell phone policy at all times (see below).
- Do not carry on side conversations with your neighbors.

Cell Phone and Computer Policy**:**

If you bring your cell phone to class, please show respect for me and the other members of the class by either turning it off or setting it so that it does not make any noise. It is unacceptable to make or receive calls, or to do text messaging while in the classroom. Should you be an EMT, police officer, or other professional "on call," please set your phone to vibrate during class, and quietly leave the classroom to return any calls received. Failure to abide by this policy will result in your dismissal from the classroom.

I do not allow use of personal computers in class. While Western Michigan University is fortunate to have wireless internet access, it should not be used during class; there is too much temptation to surf the web, check e-mail, etc. while in class, which may cause you to miss important information. If you do bring your PC to class, you will be required to put it away or to leave the classroom. If you must use a computer for academic purposes in the class, you must bring appropriate documentation from the office of student services.

Academic Integrity:

*ALL STUDENTS ARE EXPECTED TO COMPLETE THEIR OWN INDEPENDENT WORK***.** While students are encouraged to study in groups, their completed assignments are expected to be the independent work of the individual student. You are responsible for making yourself aware of and understanding the policies and procedures in the Undergraduate Catalog that pertain to Academic Integrity. These policies include cheating, fabrication, falsification and forgery, multiple submission, plagiarism, complicity and computer misuse. *Any breach of academic integrity will result in a failing grade.*

If there is reason to believe you have been involved in academic misconduct, you will be referred to the Office of Student Conduct. You will be given the

opportunity to review the charge(s) and if you believe you are not responsible, you will have the opportunity for a mediated hearing. If you are unsure of any breaches in your work, please seek assistance from me or through other means prior to submitting it.

You are responsible for your work, the quality of your work, and the validity of your work. Any violation of academic integrity is serious and, if founded, will result in a zero for the assignment. *Ignorance is not an excuse and will not prevent a failing grade from being assigned.*

Help with course material:

Office hours are provided for students to seek guidance and help with course content. Office hours are provided for the sole purpose of helping students and should be taken advantage of as needed.

Surviving Statistics

Lastly, Statistics is not a subject that is learned without practice *and* help. Do not be afraid to ask for help or come see me in my office. **I am more than willing to go the extra mile, but only if you are, too.**

The best rules to live by in this course are:

1. **Do the work – it is worth it.**
2. **Ask for help so the class does not sound like this:**

COURSE SCHEDULE (ALWAYS SUBJECT TO CHANGE!)

Week of September 8 and 10, 2009: Introduction and Descriptive Statistics
Readings (9/8 and 9/10): Healey: Chapters 1 (pp. 1-20)
Readings (9/10): Healey: Chapters 2 (pp. 21-62)

Week of September 15 and 17, 2009: Descriptive Statistics
Readings (9/15 and 9/17): Healey: Chapters 2 (pp. 21-62)
September 15, 2009 – SPSS Session 1107 Sangren Hall

Week of September 22 and 24, 2009: Measures of Central Tendency
Readings (9/22 and 9/24): Healey: Chapters 3 (pp. 63-86)

Week of September 29 and October 1, 2009: Measures of Dispersion
Readings (9/29 and 10/01): Healey: Chapters 4 (pp. 87-114)

Week of October 6 and October 8, 2009: The Normal Curve
Readings (10/06 and 10/08): Healey: Chapters 5 (pp. 115-132)

Week of October 13 and 15 2009: Introduction
Midterm Review: Tuesday October 13, 2009; ***Midterm Exam:*** Thursday October 15, 2009

Week of October 20 and 22, 2009: Sampling and the Sampling Distribution
Readings (10/20 and 10/22): Healey: Chapters 6 (pp.139-154)

Week of October 27 and 29, 2009: Estimation Procedures
Readings (10/27 and 10/29): Healey: Chapters 7 (pp. 155-178)

Week of November 3 and 5, 2009: Hypothesis Testing
Readings (11/03 and 11/05): Healey: Chapters 8 (pp.179-207)

Week of November 10 and 12, 2009: Hypothesis Testing, Continued
Readings (11/10 and 11/12): Healey: Chapters 9 (pp. 208-233)

Week of November 17 and 19, 2009: Hypothesis Testing, once again!
Readings (11/17): Healey: Chapters 10 (pp. 234-259)
Readings (11/19): Healey: Chapters 11 (pp. 260-288)

Week of November 24 and 26, 2009: Bivariate Association
Readings (11/24): Healey: Chapters 12 (pp. 293-314)
No Class Thursday November 26 – Thanksgiving Holiday

Week of December 1 and 3, 2009: Bivariate Association, Continued
Readings (12/01): Healey: Chapters 13 (pp. 315-332)
Readings (12/03): Healey: Chapters 14 (pp. 333-360)

Week of December 8 and 10, 2009: Bivariate Association - Regression
Readings (12/8 and 12/10): Healey: Chapters 15 (pp. 361-391)

Week of December 14, 2009: Final Exam: *MONDAY DECEMBER 14: 2:45 TO 4:45 PM*