**Sociology 4220 Section 001**

**Computing Applications for the Social Sciences**

**Fall 2013**

**1172 Old Main**

**Monday/Wednesday 3:00-4:50pm**

**Professor**: David M. Merolla, PhD **Office**: 2253 FAB

**Tel**: 313-577-2930 (Main sociology line) **Email**: dmerolla@wayne.edu

**Office** **Hours**:

Monday 11am-1pm; Thursday 1pm-3pm, or by appointment

**Course Text:**

Frankforth-Nachimas, Chava, and Anna Leon-Guerrero. *Social Statistics for a Diverse Society 6th ed.* Los Angeles, CA: Pine Forge Press.

ISBN-10: 1412968240

ISBN-13: 978-1412968249

Students are encouraged to obtain a free rental copy of SPSS. You can obtain this software by emailing clearinghouse@wayne.edu and supplying your name, email address, access ID and the course name and number.

Students should have a calculator capable of doing square roots.

**Course Description:**

Statistics are a vital part of modern society and are used daily in science, politics, business and government. To become an informed citizen and successful professional in any field, students must understand the basics of statistical reasoning. This course is designed to provide sociology majors with a an introduction to foundational statistical concepts, experience with basic univariate and bivariate statistical techniques, an introduction to statistical inference, and hands-on experience computing statistics both by hand and with statistical software. Although statistical software has made analysis of large scale data more accessible than in the past, an understanding of foundational statistical concepts is necessary to take advantage of these advances. As such, this course will focus on conducting basic statistical analyses by hand and understanding how statistics are used. By the end of the semester you should be able to pose and test bivariate hypotheses, conduct univariate and bivariate statistical analyses either by hand or with computer applications, and reach conclusions based on an inferential statistical analysis.

**Course Learning Goals:**

* Students will understand the basics of data organization.
* Students will understand univariate statistical techniques used to describe individual variables and when these techniques are appropriate.
* Students will be able to compute descriptive statistics by hand and using SPSS.
* Students will understand statistical inference and how probability theory informs inferential techniques.
* Students will be able to test univariate hypotheses using inferential statistical techniques
* Students will understand basic bivariate statistical techniques and know when these techniques are appropriate.
* Students will be able to carry out bivariate techniques by hand and using SPSS and interpret results.
* Students will understand how multivariate statistical techniques can improve upon bivariate statistical techniques
* Students will understand how statistics can be used to answer research questions and test hypotheses.

**General Course Policies**

**Attendance:** Students may miss one class without penalty, afterwards each missed class will result in a 5 point deduction in your attendance grade regardless of the reason for the absence. It is the responsibility of the student to notify the instructor of an absence to get any updates about the course schedule or get assignment materials. You cannot make up in-class work or extra credit assignments for days you are absent. Students arriving more than 15 minutes late will be counted as absent.

**Assignments.** Students are required to complete all assignments by the due date; students who have difficulty with a particular assignment on time are expected to contact the instructor to discuss these problems **prior to the assignment due date.** Assignments not completed by the due date will not be eligible for full credit and will be evaluated at the instructor’s discretion.

**Quality is key.** If you are not already of the persuasion that you wouldn’t want to put your name on half-baked & last-minute “efforts,” may you come around soon to that way of thinking. Take pride in your work; do it well enough to claim it as your own.

**Reading.** Students are required to read all course materials by the time class begins and notify the instructor if they have difficulty completing required reading. Please ask questions if you are confused by the course text.

**Office Hours.** Office hours are designed for me to answer specific questions or assist with specific aspects of an assignment. Please come to office hours with questions ready and attempt to complete assignments independently prior to coming to office hours. If you think you will need more that 20 minutes of time, please schedule an appointment.

**Focus.** Students are expected to be focused on class presentations during class time. **Cell phone use in class is strictly prohibited; if I see you using a cell phone during class, I will deduct 20 points from your final grade, no exceptions.** When we are using computers the computer must be used for class purposes only. Students may not use lab computers for any other purpose during class periods.

**Final Grades.** Final grades submitted by the instructor are **final.** If you believe that there has been a clerical error or other mistake you may inquire for an accounting of your grade. However, grades will be based solely on your scores on course assignments and will not be arbitrarily adjusted at the end of the term. Students who ‘need’ a particular grade should ask me early in the semester about whether they are on track.

### Academic Honesty. Students are expected to display academic integrity in all of their work for this course. Academic dishonesty includes cheating, fabrication, and plagiarism. Any student suspected of dishonesty in their work will receive a zero for the assignment in question and referred to the department chair for further disciplinary action. If you have any questions about academic honesty, please contact me.

### Honor Code. Students are bound by the Wayne State University honor code which states: “Wayne State University holds its students to the highest academic standards. Pride in the University and in oneself requires students to maintain an environment free from any breach of academic honesty. As lifelong representatives of Wayne State, we seek to cultivate honor, integrity, and civility in order to ensure that we earn our degree honestly and that we provide an ethical platform for our continued success”

### Registration. Students may *drop* a class for fifteen-week classes through the end of the fourth week of class (September 20th). Classes that are *dropped* do not appear on the transcript. Beginning the fifth week of class students are no longer allowed to drop but must *withdraw* from classes. It is the student’s responsibility to request the withdrawal through the registrar’s office. Failure to do so will result in a grade of F. Students must be passing at the time of the request to get a ‘WP.’ After the 10th week (November 9th) you cannot withdrawal from the course and will receive a letter grade. Incomplete ‘I’ grades are given in very limited circumstances to students who are passing the course and cannot complete final assignments due to unforeseen extenuating circumstances. Students that get a grade of incomplete must complete all assignments January 30th 2014. Student who are not registered for this course may not attend course meetings.

### Disability. If you have a documented disability that requires accommodations, you need to register with Student Disability Services (SDS) for coordination of your academic accommodations. The Student Disability Services (SDS) office is located at 1600 David Adamany Undergraduate Library in the Student Academic Success Services department. SDS telephone number is 313-577-1851 or 313-577-3365 (TDD only). Once you have your accommodations in place, I will be glad to meet with you privately during my office hours to discuss your special needs. Student Disability Services’ mission is to assist the university in creating an accessible community where students with disabilities have an equal opportunity to fully participate in their educational experience at Wayne State University.

**Course Requirements and Grading**

1. Attendance: Attendance is worth 50 points, see attendance policy above.
2. Homework: There will be 6 homework assignments worth a total of 150 points. Homework assignments that are completed on time can be corrected for up to ½ of the original missed points.
3. Exams: There will be 3 exams worth a total of 300 points. Given the nature of the subjects, the exams will be cumulative in nature.

**Grade Chart:**

Assignment/Evaluation Possible Points Your points

HW 1 25

HW2 25

HW3 25

HW4 25

HW5 25

HW6 25

Exam 1 100

Exam 2 100

Exam 3 100

Attendance 50

TOTAL 500

Grades: A (500-460) A- (459-450) B+ (449-430) B (429-410) B- (409-400) C+ (399-385) C (384-360) C-(359-350) D (349-300) F (<300)

**COURSE SCHEDULE- subject to change**

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**Week 1**

WED August 28: Class Introduction; Math Review

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**Week 2**

MON September 2: **NO CLASS**

WED September 4: Introduction to Statistics: Cases, Variables and Organizing Data (Chapter 1)

**Week 3**

MON September 9: Understanding Variables and Levels of Measurement (Chapter 2)

WED September 11: Frequency Distributions/Univariate Graphs and Charts (Chapter 3)

**Week 4**

MON September 16: Measures of Central Tendency (Chapter 4)

WED September 18: Measures of Dispersion (Chapter 5)

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**Week 5** (Read Chapter 5)

MON September 23: Measures of Dispersion (Chapter 5)

WED September 25: Exam Review

**Week 7**

MON September 30: **Exam 1**

WED October 2: **Lab Day (UGL Lab C)**

**Week 8**

MON October 7: Probabilities & The Normal Distribution (Chapter 6)

WED October 9: Sampling Distributions (Chapter 7)

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**Week 9**

MON October 14: Estimating Means and Testing Hypotheses (Chapter 8 & 9)

WED October 16: T-Tests (Chapter 9)

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**Week 10**

MON October 21: T-Tests (Chapter 9)

WED October 23: Exam Review

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**Week 11**

MON October 28: **Exam 2**

WED October 30: **Lab Day (UGL Lab C)**

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**Week 12**

MON November 4: Cross Tabs (Chapter 10 & 11)

WED November 6: Bivariate Measures of Association (Chapter 12)

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**Week 13**

MON November 11: Bivariate Measures of Association (Chapter 12)

WED November 13: Analysis of Variance (Chapter 14)

**Week 14**

MON November 18: Analysis of Variance (Chapter 14)

WED November 20: Correlation & Simple Regression (Chapter 13)

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**Week 15**

MON November 25: Simple Regression (Chapter 13)

WED November 27: **NO CLASS** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Week 16**

MON December 2: **Lab Day (UGL Lab C)**

WED December 4:Elaboration Paradigm (pp. 310-322)

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**Week 17**

MON: December 9: Exam Review

WED: December 11: NO CLASS

 **Friday, December 13 1:20-3:50:** **Final Exam**