

**SOCIOLOGY 476WI/476L**

**Social Statistics: Basic Concepts and Methods**

**(Spring 2017)**

**LECTURE: TTH 9:00-10:15 AM**

**(CRN 81840)**

**Gar 112**

**LAB: TH 10:30-11:45 AM**

**(CRN 81841)**

**CR 212**

**INSTRUCTOR:** Wei Zhang (email: [weizhang@hawaii.edu](mailto:weizhang@hawaii.edu))

**TA:** TBA

**OFFICE:** SAUDERS 239   **OFFICE PHONE:** 956-7689

**OFFICE HOURS:** After class or by appointment

**INTRODUCTION**

This course covers basic statistical concepts and methods in the social sciences. It aims to provide students with a foundation in quantitative sociological methods in preparation for advanced quantitative methods courses in sociology and other fields. The first half of the course deals primarily with methods for descriptive statistics involving organizing and summarizing the characteristics of sample data. The second half of the course focuses on statistical inference in order to make predictions based on the known characteristics of a sample. Techniques of the univariate and bivariate analyses such as frequency and probability distribution, sampling distribution, cross-tabs, Analysis of Variance (ANOVA), correlation, and simple linear regression are emphasized. Multivariate analysis is briefly introduced afterwards. The LAB sessions will focus on computer analysis skills and developing an empirical research paper (using General Social Survey data) step by step.

**STUDENT LEARNING OBJECTIVES**

At the end of the course, you will be able to:

- Understand basic concepts in Social Statistics.
- Distinguish different types of variables at different levels of measurement.
- Acquire basic knowledge on various sampling strategies.
- Formulate appropriate research questions that can be examined using quantitative survey data.
- Generate hypotheses based on existing sociological theories and empirical findings in the literature.
- Conduct univariate, bivariate, and some multivariate data analyses using SPSS.
- Interpret the meaning of statistical output and draw valid conclusions.

**WRITING INTENSIVE**

This class is designated writing intensive by the University Of Hawaii. To meet the hallmarks of this designation:

- The course requires students to do a substantial amount of writing—a minimum of 4,000 words (around 16 pages).
- The instructor will provide individual feedback on writing assignments.
- Students are encouraged to schedule conferences with the instructor to discuss writing improvement.
- It is expected that students will use constructive criticism to improve their writing in the final paper.

**REQUIRED TEXTS**

-- *Statistical Methods for the Social Sciences, Fourth Edition (or the latest edition)*, Alan Agresti and Barbara Finlay.

-- *Adventures in Social Research: Data Analysis Using SPSS for Window, Eighth Edition (or the latest edition)*, Earl Babbie and Fred Halley.

## COURSE REQUIREMENTS AND GRADING

Since this is a writing intensive course, students must adequately complete **ALL** writing assignments to pass the course with a D grade or better. Students who do not complete all writing assignments will get a D- or an F and will **NOT** earn W Focus credit.

- **ATTENDANCE:** Attendance to classes and labs is required. There are five in-class quizzes (2 points each).
- **(MID-TERM) MANDATORY EXTRA CREDIT PAPER:** An extra-credit short paper (3 pages) related to class topics worth up to **5 points** will be required. You can also use this opportunity to provide comments and suggestions so that I can make adjustment to my teaching! Please turn in your extra credit paper **by March 16**. Written feedback will be provided by the instructor.
- **EXAMS:** There will be two in-class non-cumulative exams—mid-term (20%) and final exam (20%). For each exam, one sheet of paper with hand-written formulas without examples is allowed.
- **ASSIGNMENTS:** This is an applied course where we will learn by doing. So there will be about five assignments, which will be handed out on a bi-weekly basis to be completely within a week. Both meeting the deadlines and correctness of the answers count.
- **TERM PAPER:** You will write a research paper (16-18 pages) by the end of the semester, using the General Social Survey (GSS) data and applying some statistical methods and techniques that you have learnt in this course. First, you need to write a research proposal (2-4 pages) by the 6<sup>th</sup> week (**Feb. 16**). Then, the first draft of your final paper is due on **April. 20** and comments will be provided by the instructor and teaching assistant. Toward the end of the semester, you will present your paper in the lab for about 8-10 minutes. The final improved paper is due on **May 5** (Friday). Attendance, exams, assignments, extra credit paper, etc. are weighted as follows:

Attendance	10%
Exams	40%
Assignments	20%
Extra credit paper	5%
Research proposal	5%
Final paper presentation	5%
Final research paper	20%
<b>Total</b>	<b>105%</b>

- **FINAL GRADE:**

97.50-100.00	A <sup>+</sup>
92.50-97.49	A
90.00-92.49	A <sup>-</sup>
87.50-89.99	B <sup>+</sup>
82.50-87.49	B
80.00-82.49	B <sup>-</sup>
77.50-79.99	C <sup>+</sup>
70.00-77.49	C
65.00-69.99	C <sup>-</sup>
60.00-64.49	D <sup>+</sup>
50.00-59.99	D
<50	F

## **IMPORTANT NOTE**

For accreditation purposes, the UH and Sociology Department must evaluate the effectiveness of our courses and department. Therefore, all students must submit an e-copy of your written papers to the instructor/TA whenever papers are due. Papers should be saved in Microsoft Word-compatible formats that you can e-mail as attachments. The writing assignments should be submitted with a file name that includes the course number (ex: 476), the semester (ex: F08, S09), the student's name, and if more than one assignment is submitted for a course, an indication of the name of the assignment (ex: Review2; Sovereignty).

*Example of correct file name format: [476SP17JonNakagawaFinalPaper.doc]*

Your papers will be used for assessment of the Sociology department, and will have no bearing on your final grade for this or any other course in the department.

## **DISABILITY ACCOMMODATION**

Any student who feels s/he may need an accommodation based on the impact of a disability is invited to contact me privately. I would be happy to work with you, and the KOKUA Program (Office for Students with Disabilities) to ensure reasonable accommodations in my course. KOKUA can be reached at (808)956-7511 or (808) 956-7612 (voice/text) in room 013 of the Queen Lili'uokalani Center for Student Services.

## **PLAGIARISM**

Acts of dishonesty, including but not limited to the following: a. Cheating, plagiarism, or other forms of academic dishonesty. b. Furnishing false information to any UH official, faculty member, or office. c. Forgery, alteration, or misuse of any UH document, record, or form of identification. The term "cheating" includes, but is not limited to: (1) use of any unauthorized assistance in taking quizzes, tests, or examinations; (2) use of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; (3) the acquisition, without permission, of tests or other academic material belonging to a member of the UH faculty, staff or student (4) engaging in any behavior specifically prohibited by a faculty member in the course syllabus or class discussion. The term "plagiarism" includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full and clear acknowledgement. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials. [E7.208 UNIVERSITY OF HAWAII SYSTEMWIDE STUDENT CONDUCT CODE, July 2009]

Since writing is a critical component of the course, plagiarism in class results in failure on the plagiarized assignment and may result in failure of the course.

## **eCAFE**

The Department of Sociology is committed to a continual improvement of the quality of its course offerings. To allow for this to occur, your help, as the consumers of these courses is needed. You are there and only you can tell us about your educational experience in your classes. Towards the end of the semester you will be informed that the eCAFE system is available to you to complete your course evaluation. We encourage you to login to <http://www.hawaii.edu/ecafe/> to submit your evaluations.

## COURSE SCHEDULE

Reading chapters before class and reading lecture PPT slides after class is strongly recommended!

Week	Topic	Readings	
1	Jan. 10	Lecture 1: Introduction to the course	CH 1
	Jan. 12	Lecture 2: Sampling and Measurements	CH 2
2	Jan. 17	Lecture 3: Descriptive Statistics I – Tabular and Graphical Description	CH 3
	Jan. 19	Lecture 4: Descriptive Statistics II – Numerical Description I	CH 3
<b><u>Assignment #1 (Due on Jan. 26<sup>th</sup> in class)</u></b>			
Chapter 1: 1.2, 1.8			
Chapter 2: 2.2, 2.10			
Chapter 3: 3.2, 3.7, 3.38			
3	Jan. 24	Lecture 5: Descriptive Statistics III – Numerical Description II	CH 3
	Jan. 26	Lecture 6: Probability Distribution	CH 4
4	Jan. 31	Lecture 7: Normal Distribution	
5	Feb. 2	Lecture 8: Sampling Distribution and Central Limit Theory I	CH 4
6	Feb. 7	Lecture 9: Sampling Distribution and Central Limit Theory II	
	Feb. 9	Lecture 10: Statistical Inference: Estimation	CH 4
<b><u>Assignment #2 (Due on Feb.16 in class)</u></b>			
Chapter 4: 4.6, 4.10, 4.16, 4.30			
Chapter 5: 5.8, 5.10, 5.20, 5.28			
7	Feb. 14	Lecture 11: Statistical Inference: Significant Tests I	CH 5
	Feb. 16	Lecture 12: Statistical Inference: Significant Tests II	CH 6
<b>RESEARCH PROPOSAL (3-4 pages): Due on Feb. 18</b>			
8	Feb. 21	Lecture 13: Comparison of Two Groups	CH 7
	Feb. 23	Review for the Mid-Term Exam	
9	Feb. 28	Lecture 14: Introduction to Bivariate Analysis	
10	Mar. 2	<b>MID-TERM EXAM (20%): Chapters 1-7</b>	
<b><u>Assignment #3 (Due on Feb. 23 in class)</u></b>			
Chapter 6: 6.2, 6.8(a), 6.14			
Chapter 7: 7.24			
11	Mar. 7	Lecture 15: Bivariate Analysis—Crosstab Tables	CH 8
	Mar. 9	Lecture 16: Chi-Square Test of Independence	CH 8
12	Mar. 14	Lecture 17: Measure of Association I	CH 8
	Mar. 16	Lecture 18: Measure of Association and Introduction to Regression	CH 8
<b><u>Assignment #4 (Due on March 23 in class)</u></b>			
Chapter 8: 8.7, 8.8, 8.14(a, b), 8.20 (Need to revise the contingency table by putting “Injury” in the row.)			
13	Mar. 21	Lecture 19: Linear Regression and Correlation I	CH 9
	Mar. 23	Lecture 20: Linear Regression and Correlation II	CH 9

14	Mar. 28	Spring Recess	
	Mar. 30	Spring Recess	
15	Apr. 4	Lecture 21: Linear Regression and Correlation III	CH 9
	Apr. 6	Lecture 22: Linear Regression and Correlation IV—Review and Examples	CH 9
16	Apr. 11	Lecture 23: Linear Regression and Correlation V—Model Assumptions and Violations	CH 9
	Apr. 13	Lecture 24: Multiple Regressions	CH 10
<b><u>Assignment #5 (Due on April 18 in class)</u></b>			
Chapter 9: 9.4, 9.22, 9.24, 9.58			
17	Apr. 18	Lecture 25: Comparing Group Means: ANOVA – One Way ANOVA I	CH 12
	Apr. 20	Lecture 26: Comparing Group Means: ANOVA – One Way ANOVA II	CH 12
<b>FIRST DRAFT OF THE FINAL PAPER: Due on April 20</b>			
18	Apr. 25	Review for the Final Exam I	
	Apr. 27	Review for the Final Exam II and Question and Answers	
19	May 2	<b>FINAL EXAM (20%): Chapters 8, 9, 12</b>	
<b>FINAL PAPER: Due on May 5 (Friday)</b>			

### TENTATIVE LAB SCHEDULE AND TOPICS

SOC476L is taught by your teaching assistant and designed to help you develop skills of quantitatively analyzing survey data (the General Social Survey-GSS) and provide a step-by-step guidance for your final paper.

	<b>Topic</b>	<b>Read Chapters</b>
LAB 1	<i>Introduction to the lab; Tips for Selecting an appropriate topic and conducting a Successful Literature Review</i> & Description of Data set: General Social Survey (GSS) 2012	Chapter 1-3
LAB 2	Getting Familiar with SPSS <i>Selecting Variables; and Developing Research Questions</i>	Chapter 4
LAB 3	<i>Univariate Analysis—Frequency Tables, Measures of Central Tendency and Dispersion</i>	Chapter 5
LAB 4	<i>Univariate Analysis—Presenting Your Data in Graphical Forms; and Developing Your Research Proposal</i>	Chapter 6
LAB 5	Recoding and Composite Measures	Chapter 7-8
LAB 6	<i>Discussing Problems in Research Proposal; the function of Univariate and Bivariate Analysis in a research paper.</i>	
LAB 7	Catch-up	
LAB 8	<i>Bivariate Analysis—Construct and Interpret Crosstabs</i>	Chapter 10-12
LAB 9	Measures of Association for Different Levels of Variables —Logic & Examples	Chapter 13
LAB 10	Tests of Significance and Examples	Chapter 14-15
LAB 11	Multivariate Analysis and Examples I	Chapter 16-17
LAB 12	Question-Answer	
LAB 13	Question-Answer	
LAB 14	<i>STUDENT PAPER PRESENTATION</i>	
LAB 15	<i>STUDENT PAPER PRESENTATION</i>	