



## SYLLABUS: SOCIAL STATISTICS

Fall 2006

SYA 4400

Mon/Wed 3:35-4:50 PM (Section 1)

Mon/Wed 5:15-6:30 PM (Section 2)

Bellamy 105A

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<b><u>Instructor</u></b>	Koji Ueno	<b><u>TA</u></b>	Josh Kojima
<b>Email</b>	kueno@fsu.edu	<b>Email</b>	hk06c@fsu.edu
<b>Office Hours</b>	Tues 3:00-5:00 PM	<b>Office Hours</b>	Varies by week. Email for appointment.
<b>Office</b>	Bellamy 512	<b>Office</b>	Bellamy 504
<b>Phone</b>	850-645-2438		

Course Web Page <https://campus.fsu.edu>

### COURSE DESCRIPTION

This course introduces you to the basics of social statistics—techniques which sociologists and other social scientists use to summarize numeric data obtained from censuses, surveys, and experiments. The topics include frequency distribution, central tendency, variability, probability theory, and estimation. You will also learn how to test hypotheses for group differences in means (z test, t test) and for association between two variables (correlation, chi-square test).

### COURSE OBJECTIVES

Upon successful completion of this course, you will be able to complete the following tasks:

1. Explain basic concepts of social statistics (e.g., population vs. sample, sampling distribution).
2. Summarize numeric data by computing descriptive statistics (e.g., mean, variance) and by creating tables and graphs. For each procedure, you will learn a hand calculation method (using calculators) and a computer method (using software called SPSS).
3. Compute various inferential statistics (e.g., t-score) using both hand calculation and computer methods.
4. Test hypotheses applying probability theory.
5. Explain the differences among various statistical techniques and identify an appropriate technique for a given set of variables and research questions.

These skills will be useful for your careers in two ways. First, statistics is the primary analytical method in sociology (and many other social sciences). For those of you who pursue academic careers, your statistical ability will influence your admissions to and performances in graduate programs as well as your research potentials as sociologists. Second, statistics also has a practical value for non-academic careers, because some jobs require experiences in data management and analysis (e.g., federal and state government jobs, marketing positions). Therefore, mastering the materials in this course will make you an attractive job candidate.

### PREREQUISITES

There are no formal prerequisites for this course. However, you do need basic knowledge of math, including addition, subtraction, multiplication, and division. Our textbook includes a basic math review (Appendix A). After the first class session, you can work on some problems in this section to see whether you have sufficient background for the course or just to refresh your skills. Again, the course does not require advanced math knowledge, and your performance in this course will instead depend on conceptual skills that you develop through assignments, exercises, and class discussions.

Some of you might have taken statistics courses in other departments. *These courses do not necessarily promise your success in this class* because statistics courses vary in terms of content and approach.

## REQUIRED COURSE MATERIALS

### Text:

Frederick J. Gravetter and Larry B. Wallnau. 2004. *Essentials of Statistics for the Behavioral Sciences*, 5<sup>th</sup> Edition. Wadsworth. ISBN: 053463396X. Available at FSU Book Store and Bill's Book Store. Bring your text to each class session; you will need it for in-class exercises.

### Calculator:

Please bring it to every class session. Although those with memory and statistical functions may be helpful, simple calculators would be sufficient. You are not allowed to use cell phones as calculators in this course.

### Computer Access:

You will learn how to use a computer program, called SPSS. SPSS is available at FSU computer labs. If you are not familiar with the lab hours and policies, please read the following web page <<http://gtcr.fsu.edu/labs.htm>> after the first class session. We use SPSS only a few times, so you do not need to purchase the software.

## COURSE REQUIREMENTS

### Attendance:

Class attendance is required. Unlike some other sociology courses, statistics requires you to gradually but constantly build your knowledge and skills. It is very difficult to catch up once you get behind. You are also expected to contribute to the class by asking questions, participating in class discussions, and working with each other for in-class exercises. Therefore, your attendance is essential for making these contributions.

**Absence Penalty.** See the grading section.

**Excuses.** The following and only the following absences are eligible to be excused: Religious holidays, as specified in FSU policy; absences due to representing FSU at official functions, including intercollegiate debating or varsity sports events; verified emergencies and/or medical illness. Medical illness refers to conditions that are serious in nature and require treatment by medical professionals and/or surgical or other treatments. Documentation is required for an absence to be excused.

**Religious Holidays.** Students will be allowed to miss class due to observance of religious holidays, but they are still responsible for all materials assigned outside and covered in class on the day(s) missed. You must talk with your instructor in advance of missing a class for religious holiday observance reasons.

**Sign-up Sheet.** I will circulate a sign-up sheet once at the beginning of every session. The person sitting in the last row is responsible to immediately return the sheet to me after signing.

**Coming in Late and Leaving Early.** If you come in late, see me after class session, so you can sign on the attendance sheet. If you know you will need to leave early, come talk to me before the class session. In the attendance sheet, circle your signature to indicate your partial attendance (coming late or leaving early), which will be counted as half attendance.

### Reading Assignments:

Read the assigned chapters before you come to each session (see the class schedule in the end of this syllabus). In order to successfully complete reading assignments, you need to understand what is in each chapter. In addition to highlighting the text and taking notes, I suggest you write down any specific questions.

You may find some chapters difficult to follow. Don't worry if this happens, but it is important to finish reading the assigned chapter before each session to get a general idea about the chapter and go back to it after class to make sure that you understand the materials better. I emphasize that you should keep up

with the reading assignments on a weekly basis. Cramming multiple chapters just before exams would most likely result in poor grades in this course.

**Problem-Solving Assignments:**

You will turn in four problem-solving assignments. Problem-solving assignments consist of hand calculation, graph/table drawing, and writing short answers. Some assignments include an SPSS component, where you will be given data and asked to conduct statistical procedures using SPSS. I will ask you to turn in a printout of your SPSS output or write brief interpretations of the output. More details will be given in each assignment.

You will have at least a week to complete each assignment. If you start working on your assignments early, you will have a chance to ask questions in the next class session before submitting your assignments.

**Collaboration Policy:** Please help each other, by all means, to exchange notes for missed class sessions, study for exams, etc. The assignments that you turn in should be your own work, however. Any form of violation will result in a "zero" for that particular assignment or an "F" for the course, at my discretion. See more information on the Honor Code below.

**Late Assignment Policy:** I will collect assignments at the beginning of the scheduled class sessions. If you turn in your assignments late (anytime after the class session starts and before 4:00 pm on the next day), you will lose 5 points (out of 50). Where to submit late assignments: my mailbox in Sociology Front Office (Bellamy 526). I do not accept assignments placed under the office door. If you miss this deadline (4:00 pm on the next day), it is your responsibility to contact me immediately—you will need submit all assignments (and take all exams) in order to receive a final grade.

**Tests:**

You will take three tests, including a final. Each test will consist of multiple choices, short-answer questions, and problem-solving questions (using a calculator). For questions that require complex formulas (materials for the second and third exams), I will provide a formula sheet, so you do not have to memorize them. Each test is intended to evaluate your understanding and skills for each segment of the course, and in this sense, tests are not cumulative. Throughout the course, however, you will learn new materials by building on what you have learned previously. Only in this sense, tests may have some cumulative elements.

**Pop Quizzes and Review Questions**

To check your understanding of reading assignments and lectures, I will give pop quizzes and review questions in class.

**In-Class Exercises (counted as extra credits):**

In many class sessions, you will solve practice problems. You are asked to submit your work at the end of class session.

**Other Extra Point Assignments:**

A few other extra point assignments will be given in the course. These assignments may include online exam preparation as well as a small application project. More instructions will be given later in class.

**Exercise Questions in Each Chapter (optional):**

The textbook provides some exercise questions in the end of each chapter. After we cover the materials from each chapter in class, I will pick a few odd-numbered questions for your practice. These questions usually do not require much time, but they are very useful for checking your understanding in each chapter. Because the textbook provides answers to these questions, I will not collect these assignments. If you are having a hard time solving these problems, you may ask questions in class.

## STUDENT SURVEY

In the first week of this course, you will be asked to participate in Student Survey as an anonymous respondent. The survey data will be used for our course exercises but not for any other purposes. The survey questionnaire will be posted on the course web site.

## GRADING

- **Problem-Solving Assignments (4)**, 50 points each. (In total, 200 of 465 final score.)
- **Tests (3)**, 75 points each. (225 of 465 final score.)
- **Pop Quizzes and Review Questions (about 10), 4 points each** (40 of 465 final score.)  
 In each quiz, you will receive 4 points for correct answer, 2 points for incorrect or incomplete answer, and 0 point for no participation. The total number of quizzes will depend on the overall performance of the class. If a greater or smaller number of quizzes are given, I will use the following formula to recalculate quiz scores in order to keep the weight of quiz scores for the final grade:  

$$[(\text{unweighted total quiz score}) / (\text{number of quizzes} * 4)] * 40$$
 For example, if 12 quizzes are given and if you have 10 correct answers, 1 incorrect answer, and 1 absence, your total quiz score will be  $40 + 2 + 0 = 42$ . Using the formula above, your weighted total quiz score will be:  

$$[42 / (12 * 4)] * 40 = 35 \text{ points.}$$
- **In-Class Exercises**, 3 points each. Added to the final score as extra points.
- **Other Extra Point Assignments**, added to the final score.
- **Absence Penalty**. No point reduction until the fifth unexcused absence (as defined in the attendance section). Start losing 5 points (from the 465 final score) each time from the sixth absence. Coming in late and leaving early count as .5 absence.

To convert your final score to a letter grade, I will first divide your final score by 465 and multiply by 100 to get a percentage and then use the following rule:

		89-87	B+	79-77	C+	69-67	D+	59-0	F
100-93	A	86-83	B	76-73	C	66-63	D		
92-90	A-	82-80	B-	72-70	C-	62-60	D-		

### Incomplete Grades

Missing work or uncompleted assignments are insufficient reasons for a grade of Incomplete. An Incomplete grade will not be given except under extenuating circumstances at the instructor's discretion. Note that College of Social Science guidelines require that students seeking an "I" must be passing the course.

## COURSE WEB SITE

When you register for this course, you automatically gain access to the course web site (Blackboard). In this web site, you can view your assignment and test scores. You can also send email to me and your classmates through the web site. To visit the site, open your web browser and go to <https://campus.fsu.edu>. After you log on, click the course number. If you are not familiar with Blackboard, click on "Blackboard Tools" in the first logon page to learn more.

**Sending and receiving email:** I use the web site to send email to the class about assignments, tests, materials covered in class sessions, etc. I may send email to some of you individually to ask questions about your assignments, tests, etc. All email messages from this course will be sent to your FSU mailer accounts. If you use other accounts (e.g., yahoo, AOL), make sure to frequently check your FSU accounts, too.

**Lecture outlines:** I will post lecture outlines on the class web site. I will do my best to post them before each class session, so those of you who are interested can print and bring them to class. But please note that the primary purpose of these outlines is to facilitate your review after each session.

## TEXTBOOK WEB SITE

Go to <[www.wadsworth.com](http://www.wadsworth.com)>, enter the textbook title in the "search" field, click our textbook by Gravetter and Wallnau, and then click "student book companion site" on the right menu. This textbook web site provides excellent resources which can help you improve your skills and prepare for exams. The site includes interactive quizzes (similar to the end-of-the-chapter questions), general online statistical resources. The use of this site is optional.

## ACADEMIC HONOR POLICY

Students are expected to abide by the Academic Honor Policy of the Florida State University, including the statement on Values and Moral Standards published in The Florida State University General Bulletin. The Academic Honor Policy outlines the University's expectations for students' academic work, the procedures for resolving alleged violations of these expectations, and the rights and responsibilities of students and faculty throughout the process. Please see the following website for a complete explanation of the Academic Honor Policy: <http://www.fsu.edu/~dof/honorpolicy.htm>.

## ACADEMIC DISHONESTY

Students must abide by the highest standards of academic integrity. Any form of academic dishonesty will result in a "zero" for that particular assignment or an "F" for the course, at the instructor's discretion. Any student who plagiarizes, cheats on exams, or otherwise behaves in a dishonest way may be reported to the university administration for further disciplinary action as specified in the Academic Honor Policy (<http://www.fsu.edu/~dof/forms/honorpolicy.pdf>).

## CLASSROOM COURTESY

Classroom courtesy is necessary to ensure that all students have the opportunity to learn without distractions. This means no talking during lectures (unless recognized by the professor or discussion leader), reading newspapers, etc. during class.

### Cell Phone Use

You are not allowed to make/answer phone calls or send/receive text messages during class sessions. If you must have a cell phone to receive emergency calls about children or other family members, keep it on vibrate.

### Class Discussions

Class discussions can stimulate strong feelings and heated debate. Because this is a college classroom, all discussions must be scholarly. Failure to abide by these principles can result in academic penalties ranging from a lowered grade, to dismissal, to failing the course.

#### Scholarly comments are:

Respectful of diverse opinions and open to follow-up questions and/or disagreement; related to the class and course material; advance the discussion about issues related to the course and/or course material rather than personal beliefs; are delivered in normal tones and a non-aggressive manner.

#### Unacceptable behaviors are:

- (a) Personal attacks. This includes attacks on a person's appearance, demeanor, or political beliefs.
- (b) Interrupting your instructor or other students. Raise your hand and wait to be called on by the discussion leader or myself to prevent this problem.
- (c) Using the discussion to argue for political positions and/or beliefs. If political discussions arise, they must be discussed as scholarly endeavors (see above).
- (d) Using raised tones, yelling, engaging in arguments with other students, and being physically aggressive.
- (e) Ignoring your instructor's authority to protect the integrity of the classroom. Anyone who violates these guidelines will be asked to cease and desist and may be asked to leave the classroom and/or drop the course.

## DISABILITY ACCOMMODATIONS

Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Student Disability Resource Center; (2) bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class. For more information about services available to FSU students with disabilities, contact:

Student Disability Resource Center, 108 Student Services Bldg., Florida State University  
Tallahassee, FL 32306-4167, (850)644-9566 (voice), (850)644-8504 (TDD)  
E-mail: [SDRC@admin.fsu.edu](mailto:SDRC@admin.fsu.edu)  
Website: <http://www.fsu.edu/~staffair/dean/StudentDisability/>

## SYLLABUS CHANGE POLICY

This syllabus is a guide for the course and is subject to change with advanced notice.

## YOUR AGREEMENT

If you have any questions about the syllabus or any element of this course, ask me right away. You will be asked to confirm your agreement with the syllabus later in the course. Without agreement, your assignments and exams will not be graded. Note that if you cannot agree with the syllabus, you have an option of dropping from the course.

## COURSE CONTENT AND SCHEDULE

	Chapter	Topic	Assignment
August 28	1, (Appendix A)	Introduction to Stats	
August 30	2	Frequency Distributions	
September 04		<b>NO CLASS (Labor Day)</b>	
September 06	No Reading	SPSS	Student Survey ends
September 11	3	Central Tendency	
September 13	4	Variability	A1 posted
September 18	5	Z-scores	
September 20	6	Probability	A1 due; A2 posted
September 25			
September 27	7	Probability and Samples	A2 due
October 02			
October 04		<i>Review/Catch Up</i>	
October 09		<b>Exam 1</b>	
October 11	8	Intro to Hypothesis Test	
October 16			
October 18	9	Intro to t Statistics	
October 23			
October 25	10	t Test for Indep. Samples	
October 30			A3 posted
November 01	12	Estimation	
November 06			A3 due
November 08		<i>Review/Catch Up</i>	
November 13		<b>Exam 2</b>	
November 15	15	Correlation and Regression	
November 20			
November 22		<i>TBA</i>	A4 posted
November 27	16	Chi-Square	
November 29			A4 due
December 04	will be posted online	Stats in Public Media	
December 06		<i>Review/Catch Up</i>	

### Final Exam Schedule

**Section 1** Monday December 11, 5:30-7:30 PM

**Section 2** Wednesday December 13, 5:30-7:30 PM