SOCIOLOGY 371:

STATISTICS FOR SOCIOLOGY

Spring 2012
Section 32035

Instructor:	Shawna N. Smith
Meeting Time:	2:30-3:45PM Tues & Thurs
Meeting Place:	Ballantine Hall 215
Office Hours:	Tuesday & Thursday 4-5pm in BH 758, or by appointment
Email:	sns3@indiana.edu **(Please put "S371" in email subject line)**
Mailbox:	Ballantine Hall 747 (under "S. Smith") *NOTE: This box is available Monday through Friday, from 9am-4pm.*
Lab Instructor:	Rebecca Grady
Meeting Time:	9:05-9:55am // 10:10-11am // 11:15-12:05pm Wednesday
Meeting Place:	Ballantine Hall 308
Office Hours:	Wednesday 2-4pm in Weatherly 002
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Mailbox:	Ballantine Hall 747 (under "Grady") *NOTE: This box is available Monday through Friday, from 9am-4pm.*
Teaching Assistant:	Ashley Springsteen
Office Hours:	By appointment
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COURSE DESCRIPTION & OBJECTIVES

Quantitative analysis is an important component of social science research as it allows researchers to answer questions about single variables (e.g., how unequally are incomes distributed across a population?) and about the relationships between two or more variables (e.g., how does income change as people age?). This course is designed to teach you basic statistical skills that will allow you to analyze the social world. The main goal of using statistics in the social sciences is to make claims about the social world. However, since we can't directly observe everything about the social world, social scientists collect information from samples of people, families, organizations, etc., and use that information to understand things about the population at large.

There are four main goals for this course:

1. You will learn the difference between *descriptive* and *inferential* statistics. *Descriptive statistics* allow us to summarize characteristics of a sample (e.g., the average income) and relationships between these characteristics (for example, the relationship between age and income). *Inferential statistics* enable us to draw conclusions ('inferences') about an entire population based on observing only a small part of that population (a sample).

2. You will put both descriptive and inferential statistics into practice by analyzing data from well-known data sets. Analysis of smaller samples will be done by hand; for larger samples, you will explore both by hand using SPSS, a widely used statistical analysis program. Familiarity with SPSS is a highly marketable skill and one that you should plan to include on future resumes.

3. You will learn to interpret the findings from your analyses in substantively meaningful ways. In other words, you will be able to translate the numbers and statistics from your analyses into meaningful and important descriptions of the social world.

4. You will learn to be a savvy consumer of statistics in everyday settings.

This course is not mathematically intensive, but a working knowledge of algebra will be very useful.

COURSE MATERIALS

Required readings

Online Statistics Education: A Multimedia Course of Study (http://onlinestatbook.com/). Project Leader: David M. Lane, Rice University. http://onlinestatbook.com/2/index.html.

***Other course readings will be made available on ONCOURSE.**

Recommended supplemental texts

Frankfort-Nachmias, Chava and Anna Leon-Guerrero. *Social Statistics for a Diverse Society*. Pine Forge Press. (Cheap used copies of the 4th edition are available for $10-20.)

Miethe, Terance D. and Jane Florence Gauthier. *Simple Statistics: Applications in Social Research*. Oxford University Press.

Other materials

Calculator. You will need a calculator. It can be basic but, as you will need it for exams, it cannot be attached to your cell phone.

USB drive. You will also need a USB flash drive to save your lab work—a 2GB flash drive costs between $10 and $20 and provides ample space for saving your work for this class. You can get a flash drive at the IU Bookstore, TIS, or any office/computer supply stores.

SPSS (optional). Lab assignments will frequently use SPSS, a professional statistical analysis package. This software is available in nearly all computer labs on campus, including all Student Technology Center (STC) labs. However, if you would like your own copy of SPSS, it is available for $50 through the Stat/Math Center (www.indiana.edu/~statmath). Note again: this purchase is not required.

PERFORMANCE ASSESSMENT

This syllabus is a contract, and your grade will depend entirely upon your preparation for class and engagement with the ideas we cover. *As a general rule, you should plan to spend at least 2-3 hours out of class preparing for **every hour** you spend in class.*

Grades will be assigned based on the following criteria:

Assessment	Points available
Exams (6 @ 100pts)	600
Lab assignments (5 @ 60pts)	300
Statistics in the news:	
Written report	75
Class presentation	25
Final project	200
Total points possible:	1200

Exams:

There will be six (6) exams given in this course, approximately one every other week. Each exam is worth 100 points; together exams will account for one-half of all available class points in this course. On exam days, you will have the entire class period to complete the exams, however most of you will not need the entire class period to complete the exam.

Exam dates for **SPRING 2012** are: January 19, February 2, February 23, March 8, March 29 and April 19.

Lab sessions & lab assignments:

Lab sessions. Lab sessions are held every Wednesday morning. Lab sessions will serve two purposes: (1) On non-exam weeks, you will begin lab assignments during lab sessions. The lab instructor will be available to provide an overview of the lab assignment and answer questions or troubleshoot problems you might have as you work through the assignment. Completed labs will be due the following class period. (2) During exam weeks, lab sessions will be used as review workshops. On workshop days, the lab instructor will review topics that may be covered on the upcoming exam, and will also be available to address questions that may arise.

Lab assignments. Five (5) lab assignments will be given throughout the semester, approximately one every other week. Each lab assignment is worth 60 points; together lab assignments will account for one-quarter of all available class points. These assignments will help you apply the statistical techniques you learn in lecture to real data, answering real sociological questions using professional statistical analysis software. You may work on lab assignments in pairs or groups, but note that *all work handed in **MUST** be your own*. Duplicate or near-duplicate assignments will be graded as 0. Lab assignments will generally be made available prior to class on Tuesday and will be due at the beginning of class on Thursday.

Lab due dates for **SPRING 2012** are: January 26, February 16, March 1, April 5 and April 12.

'Statistics in the news' project:

One of the goals of this course is for you to learn to be savvy consumers of statistics in everyday settings. The 'statistics in the news' (SITN) project will require you to find and evaluate a newspaper article that uses statistics, using the concepts, knowledge and skills developed in this course. A complete SITN project will consist of: (1) a written report; and (2) a short (~5 minute) presentation to the class on your findings, and recommendations for improvement.

For all students, the written report for this project will be due **Tuesday, April 3**. It should be uploaded to Oncourse prior to class on that date. Dates for presentations will be assigned by last name (see below). You should report to class on your assigned date prepared to give your presentation. The SITN project is worth up to 100 points, with the written report worth up to 75 points and the presentation worth up to 25 points.

SITN PRESENTATION due dates for SPRING 2012:

Last names… A-F: April 3
G-M: April 10
N-S: April 17
T-Z: April 24

Final project:

The final project brings together everything you've learned throughout the semester—in some ways, it is akin to a large lab assignment. Your final project is worth 200 points, or one-sixth of the total points available in this class. More information about this project will be provided as the semester progresses.

Final projects must be submitted to Oncourse by **5pm** on our assigned final exam day.

Final project due date for **SPRING 2012** is: Thursday, 3 May 2012.

Attendance:

Attendance will be taken in all class and lab meetings. The content and pace of this course make (on time!) attendance crucial to success in this class, for all classes and lab sessions. Missing even one class can—and likely will—put you behind.

You will, however, be allowed to miss up to a **total of four (4) classes or labs** in any combination (e.g., 3 classes and 1 lab; 2 classes and 2 labs; etc.) ***without penalty***, regardless of reason. **After your fourth absence, you will receive a 3% (36 point) reduction in your final grade.** There are no exceptions to this policy.

Also note: If you arrive to class more than 15 minutes late—or need to leave class early—and do not notify me in advance, you will be counted as absent.

Problem sets:

Every week, a problem set dealing with the topics covered for the week will be made available on Oncourse. These problem sets will not be graded—and the answers will be readily available—but they will serve as practice for course concepts and preparation for exams. You should plan to complete these practice sets every week.

FINAL GRADES

Final grades are assigned based on the following scale:

A+	1164-1200 pts.
A	1116-1163
A-	1080-1115
B+	1044-1079
B	996-1043
B-	960-995
C+	924-959
C	876-923
C-	840-875
D+	804-839
D	756-803
D-	720-755
F	<720

GENERAL GUIDELINES & POLICIES

Late Assignments:

I expect all assignments—including lab assignments—to be turned in on time. *For each day an assignment is late, the grade will drop one full letter grade*, or 10% of total available points. Late assignments must be submitted in hardcopy during class or lab sessions, or office hours. Please DO NOT turn in assignments to our mailboxes without prior permission.

University Sanctioned Absences:

If you intend to miss class for a university sanctioned event (such as a religious holiday or student athlete event) you are required to notify me within the first two weeks of the semester and provide the appropriate documentation. Early notification will also ensure that you are given the opportunities you need to keep up with the material you will miss due to your absence. University-sanctioned absences cleared with me in advance will **NOT** count against your absence allowance.

Lecture Notes:

I do ***not*** provide lecture notes. It is your responsibility to take notes during class. If you miss class, it is your responsibility to borrow notes from a fellow classmate. As such, you should exchange contact information other course members in the event that you are absent.

Missed Exams:

Makeup exams will not be given, except in extremely unusual AND documented circumstances. If you cannot take the exam due to a circumstance that is both legitimate AND documentable, you must contact me **prior** to the exam and we will arrange for you to take an alternative exam. If you do not contact me prior to the exam, or miss an exam without a documented excuse, you will receive a 0.

Incompletes:

In accordance with departmental and university policies, incompletes are not granted except in cases with exceptionally unusual circumstances.

Special Needs:

In compliance with the Americans with Disabilities Act (ADA), IU seeks to provide "reasonable accommodation" for qualified individuals with documented disabilities. It is your responsibility to contact the Disability Student Service Office (812-855-7578; http://www.indiana.edu/~iubdss) and to inform me about any special learning/study needs relating to a documented disability.

Email:

Email is my preferred method of communication. Feel free to email with questions or issues you would like to discuss. On weekdays, I check email between 9am & 8pm and I aim to respond to all emails within 24 hours. When sending an email, include the course number (S371) in the subject line.

Cell Phones and Laptops:

Any use of cell phones (including texting) is prohibited during class. Upon entering my classroom, **please turn your cell phone off** or put it in silent mode (no light, vibration, or sound). Further, during exams cell phones must be kept completely out of sight. Additionally, unless specified for special needs accommodation, **laptops are not allowed in this course.** Please leave your laptop either in your bag or at home.

Oncourse:

You must have access to Oncourse. SITN projects and final projects must be turned in via Oncourse, some class readings will be posted on Oncourse, and course announcements will frequently be made via Oncourse. Further, I will manage all course grades via Oncourse. You are responsible for ensuring your grades are correctly posted. You should plan to check your grades once a week. Please contact me *immediately* if you notice an incorrect grade posting.

Respecting others:

Productive classrooms require respect. I expect all class discussions and contributions, and questions to be respectful and *rooted in scholarly pursuit*. Personal attacks, interruptions, foul language &/or disruptive behavior will not be tolerated.

Further, respectful behavior requires you to: (1) arrive to class on time; (2) pay attention during lecture; and (3) be actively involved during in-class activities. Failure to meet these expectations will be dealt with accordingly.

Honor Code:

It is not possible for us to have an intellectual community without honor. I expect you to demonstrate respect by recognizing the labor of those who create intellectual products.

Academic dishonesty (including cheating and plagiarism) will not be tolerated and will be dealt with according to university policy. Please see the Code of Student Rights, Responsibilities and Conduct for university policies on academic misconduct and dishonesty at: http://www.iu.edu/~code/code/responsibilities/academic/index.shtml.

If you cheat (and this includes plagiarism/not citing sources), your final grade will be an F. You will be reported. Ignorance is not an excuse. If in doubt, ask.

Schedule of Class Meetings & Readings

Readings & assignments are due the day they appear on the schedule.

(OSB=Online Stats Book; other readings available on Oncourse)

Note: Instructor reserves the right to change the course schedule. Check Oncourse for updates.

Week ONE

Tuesday 10 January: Class overview
READ: Syllabus
"Math Review" (Oncourse)

(LAB): Introduction to SPSS
READ: "SPSS Tutorial", Chap. 1-3 (Oncourse)

Thursday 12 January: Key concepts in statistics
READ: OSB Chap. 1, Sections A-D, F & H
"Stat-spotting" (Oncourse)

Week TWO

Tuesday 17 January: Organizing & displaying data
READ: OSB Chap. 1, Section I; Chap. 2
"The Gee-Whiz Graph" (Oncourse)

(LAB): Workshop

Thursday 19 January: **Exam 1**

Week THREE

Tuesday 24 January: Central tendency & dispersion
READ: OSB Chap. 3, Sections A1-A3
"The Well-Chosen Average" (Oncourse)

(LAB): Lab 1: Central tendency, distributions & dispersion
READ: "SPSS Tutorial", Chap. 4-6 (Oncourse)

Thursday 26 January: Central tendency & dispersion
READ: OSB Chap. 3, Sections B & C
**Due: Lab 1*

Week FOUR

Tuesday 31 January: Mean comparisons & boxplots
READ: OSB Chap. 2, Sections B4-B5
Weisse 2001 (Oncourse)

(LAB): Workshop

Thursday 2 February: **Exam 2**

Week FIVE

Tuesday 7 February: Contingency tables
READ: OSB Chap. 17, Sections B & D

(LAB): Final project workshop

Thursday 9 February: Measures of association
READ: OSB Chap. 20, Section E
**Due: Final project overview*

Week SIX

Tuesday 14 February: Correlation
READ: OSB Chap. 4, Sections A-E; Chap. 20, Section N

(LAB): Lab 2: Bivariate relationships
READ: "SPSS Tutorial", Chap. 11 & 13

Thursday 16 February: Bivariate regression
READ: OSB Chap. 14, Sections A-C
**Due: Lab 2*

Week SEVEN

Tuesday 21 February: Introduction to multivariate analysis
READ: "Post-hoc Rides Again" (Oncourse)
"Why do multivariate analysis?" (Oncourse)

(LAB): Workshop

Thursday 23 February: **Exam 3**

Week EIGHT

Tuesday 28 February: Probability & sampling distributions
READ: OSB Chap. 5, Sections A-C, N

(LAB): Lab 3: Sampling distributions

Thursday 1 March: Probability & sampling distributions
READ: OSB Chap. 9, Sections A-E
**Due: Lab 3*

Week NINE

Tuesday 6 March: Sampling distributions
READ: "The Sample with Built-In Bias" (Oncourse)

(LAB): Workshop

Thursday 8 March: **Exam 4**

Week TEN: SPRING BREAK

Week ELEVEN

Tuesday 20 March: Normal distribution
READ: OSB Chap. 7, Sections A-E

(LAB): Review of normal distribution

Thursday 22 March: Estimation using confidence intervals
READ: OSB Chap. 10, Sections A, E1-4

Week TWELVE

Tuesday 27 March: Hypothesis testing for one-sample mean
READ: OSB Chap. 11; Chap. 12, Section A

(LAB): Workshop

Thursday 29 March: **Exam 5**

Week THIRTEEN

Tuesday 3 April:	Hypothesis testing for two-sample means (comparing groups) READ: OSB Chap. 12, Sections C-E **Presentations: SITN projects A-F*
(LAB):	Lab 4: Confidence intervals & hypothesis testing READ: "SPSS Tutorial", Chap. 7-9
Thursday 5 April:	Hypothesis testing for contingency table READ: OSB Chap. 17, Sections A, D & E **Due: Lab 4*

Week FOURTEEN

Tuesday 10 April:	Hypothesis testing for regression READ: OSB Chap. 14, Section F **Presentations: SITN projects G-M*
(LAB):	Lab 5: Hypothesis testing for bivariate relationships
Thursday 12 April:	Hypothesis testing for regression READ: TBA **Due: Lab 5*

Week FIFTEEN

Tuesday 17 April:	Review of multiple regression READ: TBA **Presentations: SITN projects N-S*
(LAB):	Workshop
Thursday 19 April:	**Exam 6**

Week SIXTEEN

Tuesday 24 April:	Semester wrap-up **Presentations: SITN projects T-Z*
(LAB):	Final project workshop
Thursday 26 April:	Semester wrap-up

Week SEVENTEEN

Thursday 3 May:	**FINAL PROJECT DUE to ONCOURSE by 5PM**