

SOCIOLOGY 305 (FALL 2017)  
**QUANTITATIVE RESEARCH METHOD**

T/R 1:30PM-2:55PM  
Weingart 209 (T) | Library 219 (R)

Instructor: John Chung-En Liu  
Email: chungenliu@oxy.edu  
Office: 205 Swan Hall  
Phone: 323.259.2824  
Office Hours: M/W 930am-11am or by email appointment  
Course Website: <https://moodle.oxy.edu/course/view.php?id=22581>

**Course Description**

This course introduces quantitative methods of empirical social research. We start with numerical and graphical tools to examine distributions of single variables, next move to correlation to describe the relationships between a pair of variables. We also cover the basic logic of quantitative research. In the second half, we will focus on statistical inference through hypothesis testing and linear regressions.

This course has the following goals:

1. Sharpen quantitative reasoning skills that allow you to understand and evaluate empirical research
2. Understand how sociologists use statistics to produce knowledge about the social world
3. Learn how to clean and analyze data using Stata, a powerful statistical analysis program

**Course Reading**

*Main Texts:*

- Joseph F. Healey. 2015. Statistics: A Tool for Social Research, 10<sup>th</sup> Edition
- Charles Wheelan. 2014. Naked Statistics: Stripping the Dread from the Data

*Supplemental:*

- Neil J. Salkind. 2016. Statistics for People Who (Think They) Hate Statistics, 6<sup>th</sup> Edition

The textbooks for this course is available on reserve in Academic Commons. You can check out the book for up to 4 hours at a time. In-library use only. Brought to you by Associated Students of Occidental College.

**Grading Rules**

The grading of the course is based on homework assignments, the midterm exam, and the final exam. Grading breakdown is as the following:

Homework Assignment (6)	40%
Group Project and Class Participation	10%
Midterm Exam	20%
Final Exam	30%

The letter grades will be assigned as follows:

A=93.0 and higher

A-=89.0 to 92.99

B+=86.0 to 88.99

B=83.0 to 85.99

B-=80.0 to 82.99

C+=77.0 to 79.99

C=73.0 to 76.99

C-=70.0 to 72.99

D+=67.0 to 69.99

D=60.0 to 66.99

F=59.99 and lower

### **Homework Assignment (40%)**

There will be six homework assignments—including both problem sets and Stata exercises—due throughout the course. I will automatically drop the lowest score. The assignments are designed to help you demonstrate your understanding of data analysis and interpretation. The assignments increase in difficulty as we move throughout the course so it's imperative that you get help early if you're having trouble understanding the material.

### **Group Project (10%)**

In this course, we will collectively design, conduct, and analyze a survey to Oxy's sociology alumni. This is an exercise for you to engage in a real quantitative research project. I will provide more details during the semester.

### **Exams (Midterm 20% / Final 30%)**

There will be two exams in the course. The midterm exam will take place on October 5<sup>th</sup> during class time. The final exam will follow the scheduled exam period, and it will be cumulative. You will need to do basic calculation in the exam. Bring your calculators.

### **Software**

In this class, we will be using Stata to work with data. You have access to Stata, free of charge, on all campus computers. If you would like to purchase your own copy of Intercooled (IC) Stata, you have several options: you can buy a 6-month license, a 1-year license, or a perpetual license. You can purchase a license or learn more at: <http://www.stata.com/order/new/edu/gradplans/student-pricing/>. It is very convenient to have a copy of Stata on your computer but I would like to keep the costs of the course as low as possible so purchasing your own copy is not required. There are many online resources available to help you learn to use Stata. I particularly like UCLA's website: <http://www.ats.ucla.edu/stat/stata/>.

### **Office Hour**

My office hour is on Monday and Wednesday 930am-11am. I enjoy talking to students and I encourage you to stop by. If you need to meet up with me in times other than my regular office hours, you can make an appointment with me. Office hours will not be devoted to tutorial for materials that students miss when not attending class. Also, please strive to ask routine questions of clarification in class.

### **Email Policies**

The primary mode of communication for this course (outside of class meetings) will be email. I will send emails to your Oxy email address. I will send course-related information to you at least 24 hours in advance of any deadlines. I will likewise respond to your emails within 24 hours.

### **Academic Honesty**

The College takes academic honesty very seriously. All of the work that you submit for this class must be your own work, and you are required to quote and cite all references properly. Although

this appears straightforward, it can sometimes be confusing. Wherever you are unsure about quoting and citing, I am happy to help you figure out the best strategy.

The penalty for academic misconduct can include disciplinary probation, a failing grade on the assignment or in the course, or expulsion from the college. Every student is responsible for understanding what constitutes academic misconduct. Please read the college's academic honesty primer here: <http://www.oxy.edu/student-handbook/academic-ethics>. If you have any question about whether your work upholds the standards set forth by Oxy, please speak with me.

### **Electronic Devices**

When we go to the Brown Lab, you will be given laptops to practice using Stata. Other than that, No use of laptops, tablets, phones, or other electronic devices when we meet up in Mosher 3. Although computers are a valuable tool for research and study, they often hinder participation and collegiality in the classroom. Plus, we're really not that good at multi-tasking. If you are interested in this policy, I recommend *The New Yorker's* article "[The Case for Banning Laptops in the Classroom](#)"

### **Support Services**

- The Writing Center (<http://www.oxy.edu/writing-center>) offers students from all disciplines two types of support to work on their writing: peer-to-peer, drop-in consultations with knowledgeable Writing Advisers and appointments with Faculty Writing Specialists from the Writing and Rhetoric department.
- Students who have disability-related needs, please contact me AND the Coordinator of Disability Services—(323) 259-2969—as soon as possible and we will make the appropriate accommodations. Please refer to the information on Disability Services' website: <http://www.oxy.edu/disability-services>
- Finally, the Emmons Health and Counseling Center (<http://www.oxy.edu/emmons-health-center>) is available for assistance with medical and mental health concerns.

### **Changes to the syllabus**

The syllabus is a guide for the course and your learning is my top priority. If the course requires any changes, I will post a revised syllabus on Moodle and inform the class of any changes.

## **COURSE SCHEDULE AND LIST OF READINGS**

<b>Week 1</b>	<b>Introduction</b>
8/29	The Syllabus
8/31	Healey, Chapter 1 and 2
<b>Week 2</b>	<b>Central Tendency, Dispersion, and Presenting Data</b>
9/5	Healey, Chapter 3 and 4
9/7	Salkind, Chapter 4: Charts and Tables Wheelan, Chapter 3

<b>Week 3</b>	<b>Correlation &amp; Introduction to Stata</b>
9/12	Salkind, Chapter 5: Correlation Coefficient Wheelan, Chapter 4
9/14	Introduction to Stata (HW1 due)
<b>Week 4</b>	<b>Research Design—Survey</b>
9/19	Salkind, Chapter 6: Introduction to Reliability and Validity Durand, “Surveys and Society” Smyth, “Designing Questions and Questionnaires” Jan and Hinz, “Research Question and Design for Survey Research” Wheelan Chapter 7
9/21	Survey Design Lab
<b>Week 5</b>	<b>The Normal Curve</b>
9/26	Healey, Chapter 5 Wheelan, Chapter 5 & 5 1/2
9/28	Survey Design + Stata (HW2 due)
<b>Week 6</b>	<b>Research Design—Experiment</b>
10/3	Jackson and Cox. "The principles of experimental design and their application in sociology." Pager, Bonikowski, and Western, “Discrimination in a Low-Wage Labor Market” A Field Experiment”
10/5	Midterm Exam
<b>Week 7</b>	<b>Fall Break &amp; Introduction to Inferential Statistics</b>
10/10	Fall Break, no class
10/12	Healey, Chapter 6 Wheelan, Chapter 8
<b>Week 8</b>	<b>Inferential Statistics and the Sampling Distribution</b>
10/17	Healey, Chapter 6 (contd.)
10/19	TBA
<b>Week 9</b>	<b>Estimation using Confidence Intervals</b>
10/24	Healey, Chapter 7 Wheelan, Chapter 10 (HW3 due)
10/26	Stata Lab

<b>Week 10</b> 10/31	<b>Hypothesis Testing: One and Two Sample Cases</b> Healey, Chapter 8-9
11/2	Stata Lab (HW4 due)
<b>Week 11</b> 11/7	<b>Hypothesis Testing: One and Two Sample Cases</b> Healey, Chapter 8-9
11/9	Stata Lab
<b>Week 12</b> 11/14	<b>Hypothesis Testing: Chi-Square</b> Healey, Chapter 11-12
11/16	Stata Lab (HW5 due)
<b>Week 13</b> 11/21	<b>Linear Regressions</b> Healey, Chapter 13 Wheelan, Chapter 11
11/23	Thanksgiving Break
<b>Week 14</b> 11/28	<b>Linear Regressions and <math>p</math>-value controversy</b> Healey Chapter 15
11/30	Survey Lab
<b>Week 15</b> 12/5	<b>Conclusion</b> Review and Conclusion (HW6 due)

**Final Exam TBA**