



Sociology 361: Statistics for Sociologists II
Fall 2020~ Professor Eric Grodsky
Tuesdays & Thursdays ~ 2:30-3:45 ~ The virtual edition

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Office hours: W 9-10, F 2-3 online [by appointment](#) or by appointment other times.

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Canvas URL: <https://canvas.wisc.edu/courses/225600>

Three credits

Instructional mode: Virtual

Credit hours are met following the traditional [Carnegie definition](#)

LEARNING OUTCOMES

- *Conduct Research and Analyze Data*
- *Critically Evaluate Published Research*
- *Skillfully Communicate*
- *Critically Think about Society and Social Processes*

COURSE DESCRIPTION

This class is the second of three required courses in quantitative methods for doctoral candidates in sociology. At the time you enroll in this course, I expect you to have a high degree of competence with basic statistics, including measures of central tendency and dispersion, basic analysis of variance and familiarity with bivariate regression. **If you chose not to take 360 and are sketchy on any of this material, you should reconsider taking this class.**

The primary objective of this class is to help you achieve a deep understanding of ordinary least squares regression (OLS). This understanding will include the mechanics of OLS, assumptions of OLS and consequences of violating those assumptions, and facility with the quantitative and graphical diagnostic tools to evaluate a model's conformity to those assumptions. Just as important, I will help you become expert at presenting quantitative results from OLS models in a substantively meaningful and accessible way. Finally, we will read several published papers using OLS regression in order to understand and critique the ways in which this tool is used in the field. Engaging in discussions around both substance and method will hopefully demystify the tools we employ and help all of you be smarter consumers and producers of social science.

LABORATORY SESSIONS

Your TA is responsible for running lab. The purpose of labs are to:

1. Clarify concepts and procedures covered in lecture
2. Train students how to use Stata, the software we use to do statistical modeling in this class

Labs are scheduled:

M 9:55-11:50AM in 3218 Sewell Social Sciences (virtual after week two)

M 1:20-3:15PM in 3218 Sewell Social Sciences (virtual after week two)

DIVISION OF LABOR

I am responsible for the substantive instruction in this course. Charlie Fiss (charles.fiss@wisc.edu), the Director of the [Data and Information Services Center](#), is an excellent resource for helping you locate and access data. The TA for the course will provide you with technical assistance in Stata and helping you locate, access and prepare the data you will use for your term paper. The TA will also do her best to compensate for any shortcomings in my classroom instruction.

COURSE COMMUNICATION and OFFICE HOURS

Our job is to provide you with opportunities to succeed in this course. It is your prerogative to take advantage of those opportunities. Please do not hesitate to email us or to visit us during our office hours, but note that, since office hours are virtual, I am asking you to schedule with me in advance. If you are not able to meet with us during office hours, we are happy to meet with you at another mutually convenient time.

This term, we will be using Piazza for class discussion. The system is highly catered to getting you help fast and efficiently from classmates, the TA, and myself. Rather than emailing questions to the teaching staff, I encourage you to post your questions on Piazza. I will post information regarding assignment, lectures, etc. in Piazza. If you have any problems or feedback for the developers, email team@piazza.com.

Find our class signup link at: <https://piazza.com/wisc/fall2020/soc361>

REQUIRED and RECOMMENDED BOOKS

Required

Fox, John (2016). *Applied Regression Analysis and Generalized Linear Models*. 3rd edition. Thousand Oaks, CA: Sage Publications.

Course readings on canvas.

Stata- available through SSCC's [winstat](#) or for free download to install on your own computer for the campus [software library](#).

Recommended

Allison, Paul D. 1999. *Multiple Regression: A Primer*. Thousand Oaks, CA: Pine Forge Press.

BRING A CALUCLATOR EVERY DAY [doesn't have to be scientific]

ASSESSMENT

I will assess your performance in this course using three main instruments: a term paper, problem sets and two exams. The term paper will allow you to demonstrate your proficiency with least squares regression in an authentic way, by applying the skills you learn to a sociological research question. The problem sets are exercises to help you improve your understanding of the material and are graded on a simple three-point scale from 1 (you gave us nothing or something egregiously incomplete) to 3 (you answered all of the questions and showed evidence of effort). You do not get penalized for getting a question wrong on a problem set; you get penalized for not trying. The exams allow you to demonstrate your ability to recall and synthesize information on demand (without your books and notes). While exams are in some ways the least authentic of the assessments, they are also best suited to tapping deeper knowledge of the material. I will make a practice exam and practice exam answers available to you at least a week in advance so you know what's coming.

Due date	Assignment	Share of grade
<i>Term paper</i>		
24-Sep	topic/data	2%
13-Oct	measures and descriptive	3%
27-Oct	regression 1	5%
10-Nov	regression 2/diagnostics	5%
24-Nov	draft to peer	
3-Dec	peer review	5%
14-Dec	full paper	25%
TOTAL PAPER		<u>45%</u>
<i>Problem sets</i>		
22-Sep	PS1	3%
29-Sep	PS2	3%
6-Oct	PS3	3%
20-Oct	PS4	3%
3-Nov	PS5	3%
17-Nov	PS 6	3%
8-Dec	PS 7	3%
TOTAL PROBLEM SETS		<u>21%</u>
<i>Exams</i>		
22-Oct	Midterm	15%
10-Dec	Final	14%
TOTAL EXAMS		<u>29%</u>
<i>Participation</i>		5%
		100%

Please submit all assignments in Word or some other easily edited format via the course web page. Do NOT send me .pdf or LaTeX files. You may include pictures of handwritten work with your problem sets.

Exam proctoring

Honorlock will proctor your midterm exam this semester. Honorlock is an online proctoring service that allows you to take your exam from home. You DO NOT need to create an account, download software or schedule an appointment in advance. Honorlock is available 24/7, and all that is needed is a computer, a working webcam/microphone, your ID, and a stable internet connection.

To get started, you will need Google [Chrome](#) and download the [Honorlock Chrome Extension](#).

When you are ready to complete your assessment, log into Canvas, go to your course, and click on your exam. Clicking "Launch Proctoring" will begin the Honorlock authentication process, where you will take a picture of yourself, show your ID, and complete a scan of your room. Honorlock will be recording your exam session through your webcam, microphone, and recording your screen. Honorlock also has an integrity algorithm that can detect search-engine use, so please do not attempt to search for answers, even if it's on a secondary device.

Honorlock support is available 24/7/365. If you encounter any issues, you may contact them through live chat on the support page or within the exam itself. Some guides you should review are Honorlock MSRs, Student FAQ, Honorlock Knowledge Base, and How to Use Honorlock.

Privacy of Student Information and Digital Proctoring Statement

The privacy and security of faculty, staff and students' personal information is a top priority for UW-Madison. The university carefully reviews and vets all campus-supported teaching and learning tools, including proctoring tools and takes necessary steps to ensure that tool providers prioritize proper handling of sensitive data in alignment with FERPA, industry standards and best practices.

Under the Family Educational Rights and Privacy Act (FERPA – which protects the privacy of student education records), student consent is not required for the university to share with Honorlock those student education records necessary for carrying out the proctoring service. 34 CFR 99.31(a)(1)(i)(B). FERPA specifically allows universities to treat vendors as school officials and to share student education records with them where they perform services for the university and are subject to FERPA requirements governing the use and redisclosure of personally identifiable information from education records. Honorlock is FERPA compliant and is bound by the terms of its agreement with the university to comply with FERPA's restrictions on the use of student education records.

Final Course Grades:

A	93% and above	C	73% - 75.9%
A-	90% - 92.9%	C-	70% - 72.9%
B+	86% - 89.9%	D+	66% - 69.9%
B	83% - 85.9%	D	63% - 65.9%
B-	80% - 82.9%	F	62% or lower
C+	76% - 79.9%		

CLASS POLICIES

You should expect me to come to synchronous session on time and prepared; I will expect the same from you.

Early and late assignments: Assignment due dates are noted on the syllabus. Since we are virtual, you will turn in all assignments via the course web page. You should include pictures of written work with your assignment. Late assignments will be penalized 10 percentage points each day late beginning with the day on which the assignment is due. If you have a documented excuse or emergency, please contact me to discuss it.

Academic integrity:

By enrolling in this course, each student assumes the responsibilities of an active participant in UW-Madison's community of scholars in which everyone's academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment/course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct & Community Standards for additional review. For more information, refer to Office of Student Conduct & Community Standards [web site](#).

If you cheat on an assignment I will give you a zero for that assignment.

If you cheat on an exam I will give you a zero for the exam.

Incompletes: I will only consider giving an incomplete under exceptional circumstances such as extreme illness or hardship. If you have the misfortune to find yourself in a situation that prevents you from completing the work for this course I will require documentation (from a hospital, correctional facility or other entity associated with your incapacitation) prior to giving an incomplete. If you receive an incomplete it is your responsibility to finish the work by the agreed deadline; an incomplete is automatically changed to an "F" if it is not completed.

Accommodations for students with disabilities

The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty will work either directly with the student or in coordination with the [McBurney Center](#) to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA.

Other accommodations

If you are a non-native English speaker and wish to have extra time on exams please inform me by [email](#) by the second week of class.

If you wish to request a scheduling accommodation for religious observances, send an email by the end of the second week of the course stating the specific date(s) for which you request

accommodation; campus policy requires that religious observances be accommodated if you make a timely request early in the term. See the university's [web page](#) for details.

DIVERSITY & INCLUSION

Diversity is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals.

The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.

Conflict resolution

The Department of Sociology regularly conducts student evaluations of all professors and teaching assistants near the end of the semester. If you have a grievance with me I hope that you will feel comfortable discussing it with me. If for any reason you do not feel comfortable discussing a grievance with me or are unsatisfied with the outcome of our discussion you should contact Christine Schwartz, the chair of our department (cschwartz@wisc.edu).

Course Evaluations

Students will be provided with an opportunity to evaluate this course and your learning experience. Student participation is an integral component of this course, and your feedback is important to me. I strongly encourage you to participate in the course evaluation.

SCHEDULE

WEEK 1 (9/3): Math review/Introduction to data

- Thursday: Ch. 1
- Pp. 1-9 (“Some Basic Results”) in Neter, John, William Wasserman, and Michael H. Kutner. 1989. *Applied Linear Regression Models*. Homewood: Richard D. Irwin, Inc.

WEEK 2 (9/8): Estimators and (survey) data

- Tuesday: Introduction to data guest starring Charlie Fiss, Director, Data and Information Services Center
- Thursday: Nora Cate Schaeffer AAPOR Presidential address ([YouTube](#))

WEEK 3 (9/15): Measuring latent variables

- Tuesday: Scale development
 - Appendix D.5 (not D.5.4)
 - Pp. 6-32 in DeVellis, Robert F. 1991. *Scale Development: Theory and Applications*. Newbury Park: Sage Publications.
- Thursday: Factor analysis
 - Pp. 91-109 in DeVellis, Robert F. 1991. *Scale Development: Theory and Applications*.

WEEK 4 (9/22): Distribution & bivariate regression

- Tuesday: Ch. 3-4.2 (skip 3.1.2); 4.5
 - DUE TUESDAY: [PS] 1
- Thursday: The basic idea Ch. 5.1
 - DUE THURSDAY: [P] Topic and data

WEEK 5 (9/29) Bivariate and multiple regression

- Tuesday: Extending the model Ch. 5.2
 - DUE TUESDAY [PS] 2
- Thursday: Kingston, Paul W., Ryan Hubbard, Brent Lapp, Paul Schroeder, and Julia Wilson. 2003. "[Why Education Matters](#)." *Sociology of Education* 76:53-70.

WEEK 6 (10/6): Inference & nominal predictors

- Tuesday: Inference Ch. 6.1 & 6.2
 - DUE TUESDAY [PS] 3
- Thursday: Nominal independent variables 1
 - Ch. 7.1-7.2 (skip 7.2.1)
 - Ainsworth-Darnell, James W. and Douglas B. Downey. 1998. "[Assessing the Oppositional Culture Explanation for Racial/Ethnic Differences in School Performance](#)." *American Sociological Review* 63:536-553.

WEEK 7 (10/13): Interactions & other stuff

- Tuesday: Ch. 7.3
 - DUE TUESDAY: [P] Description of data and descriptive statistics

- Thursday: Other stuff you should know
 - Ch. 6.4
 - Hughes, Michael and Melvin E. Thomas. 1998. "[The Continuing Significance of Race Revisited: A Study of Race, Class, and the Quality of Life in America, 1972 to 1996.](#)" *American Sociological Review* 63.

WEEK 8 (10/20): MIDTERM WITH HONORLOCK [through nominal predictors]

- Tuesday: Review
- DUE TUESDAY: [PS4]
- Thursday: Exam (synchronous, proctored)

WEEK 9 (10/27): Regression diagnostics

- Tuesday: Ch. 11.1-11.7
- DUE TUESDAY: [P] regression 1
- Thursday: Ch. 12 (through 12.3)

WEEK 10 (11/3): Sampling and collinearity/Missing data

- Tuesday: Sampling and collinearity
 - Pp. 22-51 of Heeringa, Steven G., Brady T. West, and Patricia A. Berglund. 2010. *Applied Survey Data Analysis*. Boca Raton: CRC Press, Taylor and Francis Group.
 - Ch. 13
- DUE TUESDAY: [PS] 5
- Thursday: Missing data
 - 20-20.2, 20.4; selected pages from Allison, Paul D. 2002. *Missing Data*. Thousand Oaks, CA: Sage Publications.

WEEK 11 (11/10): Omitted variable bias/Fixed and random effects

- Tuesday: Omitted variable bias
- DUE TUESDAY: [P] regression 2/diagnostics
- Thursday: Allison 2009: Ch. 1 & 2

WEEK 12 (11/17): Measuring change/Limited dependent variables 1

- Tuesday: Change scores or regression-adjusted change?
 - Allison, Paul D. 1990. "Change Scores as Dependent Variables in Regression Analysis." *Sociological Methodology* 20:93-114.
<http://www.jstor.org/stable/271083>
- DUE TUESDAY: [PS] 6
- Thursday: Linear probability models and alternatives
 - Grodsky, Eric and Catherine Riegle-Crumb. 2010. "Those Who Choose and Those Who Don't: Social Background and College Orientation." *ANNALS of the American Academy of Political and Social Science*. 627:14-35.
<http://www.jstor.org.ezproxy.library.wisc.edu/stable/40607404>

WEEK 13 (11/24): Limited dependent variables 2

- Tuesday: Pp. 34-47, 50-52 in Long, J. Scott. 1997. *Regression Models for Categorical and Limited Dependent Variables*. Thousand Oaks: SAGE Publications, Inc.
- DUE TUESDAY: [P] Full paper draft
- Thursday: NO CLASS

WEEK 14 (12/1) FLEX [catchup]

- DUE THURSDAY: Peer feedback

WEEK 15 (12/8): TAKE HOME EXAM

- Tuesday: Review
- Wednesday: Take-home exam distributed
- Thursday: Exam due by 2:30 PM

Final paper due by 10:00 AM on December 14