

SYLLABUS
PLSC 315: Political Numbers
Fall 2019

MWF 1:40 – 2:30 pm
Crown Center 103

Instructor

Dr. Eric Hansen

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Office Location: Coffey Hall 326B

Office Hours: MWF 12:30 pm – 1:30 pm, or by appointment

Course Description and Objectives

Quantitative data is everywhere. Businesses use it to understand their customers, professional sports leagues use it to evaluate athlete performance, and journalists use it to explain trends to readers. The political world is becoming increasingly data-oriented as well, in applications ranging from election forecasting to policy evaluation. Understanding how to interpret and use quantitative data is quickly becoming an essential part of working in the professional world and participating in modern political life. This course introduces students to the fundamentals of quantitative reasoning, applied statistics, and statistical software.

By completing this course, students should be able to:

- 1) Apply statistical reasoning to political questions
- 2) Understand and critique claims made using quantitative data
- 3) Use two software packages (Stata and Excel) to conduct rudimentary statistical analyses
- 4) Identify research questions and create basic quantitative research designs to answer those questions

Required Texts

Ellenberg, Jordan. 2015. *How Not to Be Wrong: The Power of Mathematical Thinking*. New York: Penguin.

Wheelan, Charles. 2014. *Naked Statistics: Stripping the Dread from the Data*. New York: W.W. Norton & Company.

Grades

Final grades for the course will be based on the following scale. I reserve the right to make adjustments to individual grades based on overall performance in the course and/or extenuating circumstances. There will be **NO** extra credit provided.

Letter Grade	Percentage Score
A	93-100
A-	90-92.99
B+	87-89.99
B	83-86.99
B-	80-82.99
C+	77-79.99
C	73-76.99
C-	70-72.99
D+	67-69.99
D	60-66.99
F	59.99 or below

The proportion of each assignment as part of your overall grade is as follows:

Quizzes: 10%

Homework: 30%

Writing Assignment: 20%

Midterm Exam: 15%

Final Exam: 25%

Quizzes

I will give six pop quizzes throughout the semester. Quizzes might ask questions about the assigned reading for the week, ask students to interpret a real-world example of data usage, or apply a course concept to a problem. Students should not worry about complex or “gotcha” questions appearing on these quizzes—they are deliberately designed to reward students for attending class, completing the reading, and staying up to speed with course content. Students will receive an automatic 60% for being present in class to take the quiz. At the end of the semester, I will drop each student’s lowest quiz grade from the calculation of the overall course grade.

All quizzes must be completed in class. No makeup quizzes will be given unless I receive written communication from another university official (e.g. dean, athletics official) requesting me to excuse an absence. I do not request or accept doctors’ notes. I understand students must sometimes miss class for reasons outside their control, which is why I drop the lowest quiz grade.

Writing Assignment

Students will complete a short writing assignment using quantitative data during the course, due the last day of class. I will provide students three data sets to work with. Students will identify a research question that can be answered using one of the data sets, and complete a short paper (5-8 pages) explaining the question and analyzing the data. Students who wish to use their own data set may do so; please consult with me first. More details will be provided in the first month of class.

Midterm & Final Exam

There will be two exams during the semester. The midterm exam will be worth 15% of the grade, and the final exam will be worth 25%. Due to the nature of the course content, the final exam will be cumulative. The format will be a combination of multiple choice, application, and essay questions, with the final particularly focused on application questions.

Attendance and Punctuality

Students are expected to attend class to participate in discussions of the course material. There is no formal attendance requirement, but students who regularly attend class will be at an advantage in understanding the content and performing well on class assignments and exams.

I will begin class promptly at our designated meeting time. Students should arrive five minutes before class begins in order to find a seat and make any preparations of materials before class starts. Getting to class ahead of time is also a courtesy to other students, who may become distracted by late arrivers. Students who must routinely arrive late due to circumstances outside their control (for example, a class immediately before mine on the opposite side of campus) should inform me at the beginning of the semester.

Communication, Office Hours, Question about Grades

Please direct all communication with me outside class or office hours through my campus email account, which can be found in the header of this syllabus. I check my campus email account several times daily and will try to reply to student emails as quickly as possible. That being said, students should not necessarily expect me to reply immediately to emails sent to me at the last minute. I may not be able to reply to questions about course material the morning of an exam or provide resources for an assignment the night before it is to be turned in.

My office hours exist solely for you to visit me with questions about this class. If you can't make those times, email me to schedule a more convenient appointment time. Email is only for brief communications. If you have long and complicated questions, come to my office hours. I will not send grades over email—check Sakai for the latest updates. After I have graded and returned your assignments, there is a 24-hour moratorium before I will answer questions about that assignment.

Technology Use

We will spend many class periods learning statistical software, and therefore in-class computer use is an essential part of the course. Psychological research shows that for complex tasks (say, learning statistics), multitasking significantly slows learning and productivity. Therefore, it is incredibly likely that students who use class time to read the latest from TMZ on their computers will either (a) have to spend extra time and effort outside of class learning the material on their own or (b) feel silly when the exam is in front of them.

The use of cell phones or other mobile communication devices is strictly prohibited during class, except in the event of an emergency. Cell phones minimally should be put on silent but preferably should be turned off. I may ask students I discover using their phones during class time to turn them off and place them out of reach.

Student Accessibility

Loyola University provides reasonable accommodations for students with disabilities. Any student requesting accommodations related to a disability or other condition is required to register with Students Accessibility Center (SAC), located in Sullivan Center, Suite 117. Students should provide me with an accommodation notification from SAC, preferably within the first two weeks of class. Students are encouraged to meet with me individually in order to discuss their accommodations. All information will remain confidential. For more information or further assistance, please call (773) 508-3700 or visit <http://www.luc.edu/sac>.

Academic Integrity

Students are responsible for adhering to university policy on academic honesty by avoiding acts of plagiarism or cheating. Students can find more information about what constitutes plagiarism at the Writing Center's website: (<http://www.luc.edu/writing/studentresources/onlineresources>). Consult the College of Arts and Sciences' statement to learn more about college policy: (<http://www.luc.edu/cas/advising/academicintegritystatement>). I reserve the right to exercise case-by-case discretion in assigning penalties for acts of academic dishonesty. Generally speaking, however, students should expect to receive a score of "0" on any assignment or exam where they are observed plagiarizing, cheating, or passing off someone else's ideas as their own. If more than one instance occurs during the semester, offending students should expect to fail my course. I report deliberate acts of academic dishonesty to the office of the Dean of College of Arts and Science.

Readings

Students are expected to complete daily reading assignments in preparation for class. Students should read carefully and be ready to discuss the material, as discussions based around these readings will form the basis of the participation grade. I reserve the right to make changes to the reading list and will inform students well in advance of any changes. All reading assignments are to be completed by the beginning of class time on the day indicated.

All reading assignments are to be completed by the beginning of class on the day the assignment is listed. Students are responsible for obtaining their own copies of the Ellenberg and Wheelan textbooks. All articles/chapters denoted with "[S]" will be posted on Sakai. Students may not share course materials with others outside of the class without my written permission.

<i>August</i>	
Week 1: Introduction and Course Preview	
Monday 8/26	Read course syllabus
Wednesday 8/28	Read Wheelan Intro & Ch. 1 Read Ellenberg Intro
Friday 8/30	NO CLASS – Dr. Hansen at conference
<i>September</i>	
Week 2: Measurement and Description	
Monday 9/2	NO CLASS – Labor Day
Wednesday 9/4	Read Wheelan, Ch. 2
Friday 9/6	

Week 3: Summarizing Variables: Central Tendency and Distribution	
Monday 9/9	Read Wheelan, Ch. 3
Wednesday 9/11	
Friday 9/13	
Week 4: Relationships between Nominal Variables	
Monday 9/16	Read Ellenberg Ch. 5
Wednesday 9/18	
Friday 9/20	<i>Homework #1 Due</i>
Week 5: Relationships between Continuous Variables	
Monday 9/23	Read Ellenberg Ch. 1-3 Read Wheelan Ch. 4
Wednesday 9/25	
Friday 9/27	<i>Homework #2 Due</i>
Week 6: Probability & Inference	
Monday 9/30	Read Wheelan, Ch. 5-6 Read Borges, "The Babylonian Lottery"
<i>October</i>	
Wednesday 10/2	Read Ellenberg Ch. 4
Friday 10/4	Read Wheelan Ch. 8 <i>Homework #3 Due</i>
Week 7: Review & Exam	
Monday 10/7	NO CLASS – Fall Break
Wednesday 10/9	Bring questions for in-class review
Friday 10/11	<i>Midterm Exam</i>
Week 8: Interlude on Polling and Data	
Monday 10/14	Read Wheelan, Ch. 10 Read Ellenberg, Ch. 17
Wednesday 10/16	Read Wheelan, Ch. 7 Read Ellenberg, Ch. 10 [pp. 163-171 only]
Friday 10/18	Read Jones-Rooy, "I'm a Data Scientist Who Is Skeptical About Data"
Week 9: Hypotheses Testing	
Monday 10/21	Read Ellenberg, Ch. 6-7 Read Wheelan, Ch. 9
Wednesday 10/23	
Friday 10/25	
Week 10: T-Tests	
Monday 10/28	Read Ellenberg, Ch. 8-9
Wednesday 10/30	
<i>November</i>	
Friday 11/1	
Week 11: Bivariate Regression	
Monday 11/4	Read Ellenberg, Ch. 2-3
Wednesday 11/6	
Friday 11/8	<i>Homework #4 Due</i>

Week 12: Multivariate Regression I	
Monday 11/11	Read Wheelan, Ch. 11-12
Wednesday 11/13	
Friday 11/15	<i>Homework #5 Due</i>
Week 13: Multivariate Regression II	
Monday 11/18	Read Ellenberg, Ch. 14-15
Wednesday 11/20	
Friday 11/22	<i>Homework #6 Due</i>
Week 14: Correlation is not Causation	
Monday 11/25	Read Wheelan, Ch. 13 Read Ellenberg, Ch. 16
Wednesday 11/27 & Friday 11/29	NO CLASS – Thanksgiving Break
<i>December</i>	
Week 15: Interpretation and Evidence	
Monday 12/2	Read Gelman & Loken, “The Statistical Crisis in Science” Read Aschwanden, “Science Isn’t Broken”
Wednesday 12/4	Read Belluz, “This Is Why You Shouldn’t Believe That Exciting New Medical Study” Read Aschwanden, “There’s No Such Thing as Sound Science”
Friday 12/6	Bring questions for review <i>Writing Assignment Due</i>
Thursday 12/12	<i>Final Exam – 1:00 pm</i>

Changes to the Syllabus

I reserve the right to make changes to this syllabus at any time. If changes are made, students will be informed through email and verbally in class, and a new syllabus document will be posted on Sakai.