

SYLLABUS
PLSC 315: Political Numbers
Fall 2021

MWF 2:50 pm – 3:40 pm
Crown Center 103

Instructor

Dr. Eric Hansen

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Office Location: Coffey Hall 326B

Office Hours: MWF 12:15 pm – 1:15 pm, or by appointment on Zoom

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 societal trends to readers. The political world is becoming increasingly data-oriented as well, in applications ranging from election forecasting to policy evaluation. It is important to understand how to interpret and apply quantitative data in order to work in the professional world and make sense of the political world. This course introduces students to the fundamentals of quantitative reasoning, applied statistics, and statistical software.

This course fulfills the Quantitative Analysis requirement for the Core Curriculum for Political Science majors only.

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

Course Structure

A week's schedule will include the following components, unless I inform students otherwise:

- **Lecture & Discussion.** Classes on Mondays and Wednesdays will be dedicated to instruction, discussion of concepts, and small group activities.
- **Reading Assignments.** Weekly reading assignments should be completed by Mondays at class time.
- **Friday Activities:** Every Friday, students will be assigned an in-class activity. Most activities will guide students how to program concepts in Excel or Stata. Late in the semester, Fridays will convert to individual work time for term papers with no additional in-class activities planned.

- **Homework Assignments:** Occasionally, I will assign homework assignments to reinforce lessons from in-class activities. Homework must be completed alone. Homework will not be assigned every single week, so please be attentive to due dates listed on the reading calendar below and to verbal reminders in class.

Required Texts

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

Software

This course will focus heavily on hands-on, applied learning. We will use two software packages: Microsoft Excel and Stata. These software packages are available for use on all open access university computers at both campuses. If you have a computer, you probably have Excel installed as part of the Microsoft Office package. Students can access Stata for free remotely through Apporto at luc.apporto.com. I will provide instructions on using Apporto. If you want to use Stata offline on your own computer you will need to purchase a Stata license. You can get a six-month subscription for \$48 [at this link](#). The Stata/BE license for mid-sized datasets will be sufficient for this class. Though I will do my best to assist, it is students' responsibility to ensure they can access the necessary software within the first week of class. Having trouble accessing software will not be accepted as an excuse for failing to submit assignments on time.

Beyond the resources that will be provided in class, the internet is overflowing with "how to" resources especially for Excel. There are also great free resources to help you with using Stata. One of the best is provided through UCLA (<https://stats.idre.ucla.edu/stata/>). In addition, you can get help using any command from within Stata by typing "help [command name]" (where instead of [command name] you type the name of the command). Of course, I am also happy to help with any questions you have.

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.

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:

Friday Activities: 20%

Homework: 30%

Writing Assignment: 20%

Midterm Exam: 15%

Final Exam: 15%

Friday Activities

Every Friday, individually or in groups, students will complete a tutorial on Stata or Excel. Unless otherwise indicated on the reading calendar below, each guided activity must be submitted to Sakai. Submissions will be graded on completion.

Homework

Students will complete six graded homework assignments throughout the semester. Each assignment is worth 5% of the course grade. Homework will assess students' skills applying concepts in class to work in Excel and Stata. Due dates for all homework assignments are listed on the reading calendar below.

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. Each exam will be worth 15% of the final grade. 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 have 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 watch cat videos 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 synchronous class meetings, except in the event of an emergency. Cell phones minimally should be put on silent but preferably should be turned off. Students discovered using their phones during class time will be asked to turn off their phones 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 class time Wednesday of the indicated week.

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 Wheelan textbook. All other articles/chapters will be posted on Sakai. Students may not share course materials with others outside of the class without my written permission.

Week of...	Theme/Topic	Readings
Aug. 30	Introduction	Read course syllabus (by Monday) Read Wheelan Intro & Ch. 1 (by Wednesday) <i>Friday Activity: Small Groups (ungraded)</i>
September 6	Measurement and Description I	Read Wheelan Ch. 2 <i>No class Monday – Labor Day</i> <i>Friday Activity: Guides 1 & 2</i>
Sep. 13	Measurement and Description II	Read Wheelan Ch. 3 Read Orlin Ch. 16 <i>Friday Activity: Guide 3</i>
Sep. 20	Nominal Variables	Read Orlin Ch. 19 <i>Homework #1 Due: Thursday 5 pm</i> <i>Friday Activity: Guide 4</i>
Sep. 27	Continuous Variables	Read Wheelan Ch. 4 <i>Homework #2 Due: Thursday 5 pm</i> <i>Friday Activity: Guides 5 & 5a</i>

Oct. 4	Probability & Data	<p>Read Wheelan Ch. 5-7 Read Jones-Rooy, "I'm a Data Scientist Who Is Skeptical About Data"</p> <p><i>Homework #3 Due: Thursday 5 pm</i></p> <p><i>Friday Activity: Probability (ungraded)</i></p>
Oct. 11	Inference	<p>Read Wheelan Ch. 8</p> <p><i>No class Monday – Fall Break</i></p> <p><i>Midterm Exam Friday</i></p>
Oct. 18	Hypothesis Testing & T-Tests	<p>Read Wheelan Ch. 9</p> <p><i>Friday Activity: Guide 6</i></p>
Oct. 25	Bivariate Regression	<p>Read Orlin Ch. 18</p> <p><i>Homework #4 Due: Thursday 5 pm</i></p> <p><i>Friday Activity: Guide 7</i></p>
Nov. 1	Multiple Regression I	<p>Read Wheelan Ch. 11</p> <p><i>Friday Activity: Guide 8</i></p>
Nov. 8	Multiple Regression II	<p>Read Wheelan Ch. 12</p> <p><i>Homework #5 Due: Thursday 5 pm</i></p> <p><i>Friday Activity: Guide 9</i></p>
Nov. 15	Correlation vs. Causation	<p>Read Wheelan Ch. 13</p> <p><i>Homework #6 Due: Thursday 5 pm</i></p> <p><i>Friday Activity: Term Paper Lab (ungraded)</i></p>
Nov. 22	Term Paper Lab	<p><i>No assigned reading</i></p> <p><i>No class Wednesday or Friday – Thanksgiving</i></p>

Nov. 29	Reading Scientific Literature	Read Banks & Hicks, “The Effectiveness of a Racialized Counterstrategy” <i>Friday Activity: Term Paper Lab (ungraded)</i>
Dec. 6	Interpretation and Evidence	Read Gelman & Loken, “The Statistical Crisis in Science” Read Belluz, “This Is Why You Shouldn’t Believe That Exciting New Medical Study” Read Aschwanden, “Science Isn’t Broken” <i>Friday Activity: Final Exam Review (ungraded)</i> <i>Term Paper Due: Friday 5 pm</i>
Dec. 16	Final Exam – 1 pm	

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.