POLS 3000 - Introduction to Political Research

Department of Political Science
Utah State University

Spring 2025

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Meeting time: TuTh, 15:00 to 16:15
Classroom: Old Main 301
Office hours: By appointment (sign up here).

Course Description

Has income inequality increased across and within countries over the past few decades? Do foreign countries tend to agree more with the United States or Russia in the United Nations? Does winning political office enrich politicians, or are wealthy candidates merely more likely to win office? Does assassinating a country's leader change the probability of war? Do cash transfer programs improve poverty outcomes in developing countries? Do female legislators provide more public goods than male legislators?

Academic researchers and policy-makers increasingly rely on quantitative methods to answer these questions. As the sheer volume of data available grows, the ability to analyze data, interpret the results, and effectively communicate key findings has become an essential skill to conduct empirical research in the social sciences. The ability to extract valuable insights from quantitative data—often referred to as "data science"—is also a common demand by employers in the private sector.

This course aims at filling this gap by providing students with the fundamental statistical and computing skills necessary to apply data analysis methods to the study of political science.

Course Objectives

1. *Gaining factual knowledge about evidence-based analysis of politics (terminology, classifications, methods, trends).*

   This course introduces basic principles of causal and statistical inference which allow us to answer many social science questions by analyzing quantitative data. For instance, why do some countries experience civil wars, while most do not? What determines one's choice of presidential candidate? Does discrimination exist in hiring? This course will provide the necessary foundation for answering such questions through data analysis.

2. *Learning to apply course material to solve problems.*

   This course introduces basic programming skills for data analysis, using open-source statistical software R, so that students can start answering social science questions of their own interest.

3. *Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course.*

This is an introductory data analysis course. Students who take this course are encouraged to continue using statistics in their work in college and beyond. In today's information world, there is, arguably, a deficit of people trained to make sense of quantitative data. The role of statistics is rapidly increasing in public policy, government, politics, business, sports, media, and many other parts of society. For more, see: "For Today's Graduate, Just One Word: Statistics," "The 10 Skills Employers Most Want In 2015 Graduates," "Why Basic Data Analysis Is The Most Valuable Skill You Can Learn."

Course Format

▷ Class meets on Tuesdays and Thursdays from 15:00 to 16:15.

▷ Thursday meetings will usually be dedicated to in-class programming labs.

▷ Besides Thursday's programming labs, we will usually code during class so you will need to bring a laptop to class every day. If you do not have a laptop or your laptop is malfunctioning, please make use of the laptop loan service from the library.

▷ You will be required to read ahead of every class. Reading assignments are listed in the schedule below.

▷ You will need to take a weekly online quiz at home, before class on Thursday.

▷ All problem sets are open-book. Feel free to work with your peers and help each other out, but *make sure to turn in your own work.* Problem set 5 is optional.

▷ Participation is evaluated based on your engagement during meetings and as your contributions to Discussions on Canvas.

Readings and Textbook

Course readings will primarily come from the following required book (available as an e-book on Canvas):

Llaudet, Elena and Imai, Kosuke (2022). *Data Analysis for Social Science: A Friendly and Practical Introduction*. Princeton, NJ: Princeton University Press.

Besides this textbook, I would highly recommend you to get your own copy of the following books which will come handy in your academic journey:

- de Mesquita, Ethan Bueno., and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis.* Princeton University Press.
- Imai, Kosuke. 2022. *Quantitative Social Science: An Introduction.* Princeton University Press.

- Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality.* CRC Press.

These books are **not** required for this class. Whenever a reading from these books is assigned in class you will be able to access it on Canvas.

Statistical Software

R is a free, open-source language for statistical computing and graphics. It makes data visualization, simulation and sampling easily accessible. To get a better sense of R's popularity: read a summary of software use in data analytics.

We will program in R (www.r-project.org), using an interface called RStudio (www.rstudio.com).

While very powerful, R can be more difficult to learn than some of its alternatives. The first week of classes as well as every Thursday class meeting is designed as a programming lab to facilitate learning R.

If at any point during the semester, your computer does not cooperate, please use on-campus computer labs at AGRS 135 and TSC 101, they have all required software installed.

Course Requirements

Students are expected to attend every lecture, to complete all of the required readings, and to read any additional material that is posted to Canvas each week. When additional materials are posted, I will note explicitly whether they are required or merely optional for interested students. Note that lectures will sometimes cover material that is not in the readings, and the readings may contain material that is not covered in the lectures. Both are critical to your success on quizzes and exams. Students' performance will be evaluated based on the following items:

▷ Class Attendance (3%)

▷ Participation (2%)

▷ Weekly Quizzes (15%)

▷ Programming Labs (15%)

▷ Problem Sets (25%)

▷ Group Project (15%)

▷ Take-Home Examination (25%)

Class Attendance & Participation (5%)

To succeed in the course, it is essential to attend class and participate in the lectures. Lecture slides will also be posted on Canvas. I recommend that you have the slides in front of you while you are listening to the lecture so that you can take notes and follow the overall outline of the course material. Attendance represents 3% of the final grade.

There are two primary ways students will be evaluated on their course participation. First, during lecture there will be regular opportunities to earn participation points. In-class participation represents 1% of the final grade.

Second, outside of class, **students are expected to post their questions, comments, and reflections about course readings to the discussion board on Canvas**. Specifically, students will need to post, *by Friday at 18:00*, at least 2 questions (or answers) about the weeks' materials. Weekly participation in the discussion board represents 1% of the final grade.

Weekly Quizzes (15%)

Quizzes are activities based on assigned readings and lecture material; they are designed to help you evaluate how well you have understood the reading and/or the lecture. Quizzes will become available on Canvas every Wednesday at 15:00 and you will have 24-hours to answer them before they are due at 15:00 on Thursdays. Each quiz is worth 10 points and there will be 12 quizzes in total. All quizzes are open-book and open-notes but **no collaboration between students is permitted**. Once you begin the quiz, you will have a limited amount of time to complete it (normally 20 minutes), so you should prepare as if you were taking an in-class quiz.

Students will be allowed <u>two</u> attempts to complete each quiz, and your highest grade will be recorded. Your lowest quiz grade among all 12 quizzes will be dropped when calculating your final grade.

Programming Labs (15%)

There will be 10 graded programming labs which you will complete in class and submit them **via Canvas** by the end of the meeting and no later than 18:00 of the same day. They will be graded as pass/fail, i.e., every submitted exercise will count as 10 points, while every missed exercise will receive 0 points.

Collaboration is permitted and encouraged. These assignments are directly based on the textbook and are designed to check whether you understood the material covered in the textbook.

Problem Sets (25%)

There will be 5 problem sets during the semester. The problem sets provide an opportunity for students to conduct data analysis and learn important statistical concepts. Each problem set is worth 10 points and *your lowest score will be automatically dropped, and the 5th problem set is*

optional.

Collaboration is permitted, but students must write the code and answers on their own. Please note that copying someone else's code is plagiarism. You are encouraged to work in groups to reach an understanding of how to solve a problem but the code that you submit within the problem set must be your own.

Take-Home Examination (25%)

Students will complete an online midterm exam. This exam is open-note and students must submit their work via Canvas at the designated date and time. While students can access notes, readings, and other materials, **collaboration with other students is not permitted**. Please note that copying someone else's code is plagiarism.

This semester, the take-home midterm exam instructions will be posted on Canvas on **March 4 at 16:15**, right after class. You will then have until **March 6 at 23:00** complete the exam and submit your work on Canvas.

Final Group Project (15%)

There will be a final group project due during the final exams week, on **Friday April 25, 2025**. Students will work in groups to (a) develop an research question, (b) design a survey experiment to answer that question, (3) collect data, and (4) clean and analyze data, and produce short report (no longer than 6 pages) summarizing the findings. In order to prevent students from falling behind on this group assignment, there will be 3 important milestones throughout the semester:

1. Part 1: Develop the research question (due on January 16 by 23:00, 10 points).
    - Deliverable: a one-page document outlining your research question along with a statement describing the importance of your question (i.e., why is it interesting? why is it important to know the answer to it?)
2. Part 2: Design a survey experiment (due on February 13 by 23:00, 30 points).
    - Deliverable: a short document (not longer that 3 pages) describing the survey experiment, and how its design allows you to answer your group's research question. You will receive more instructions during class on February 13.
3. Part 3: Final report (due on April 25 by 18:00, 60 points).
    - Deliverable: A brief report where you present your findings. These group report should contain the following: (1) a brief introduction describing your research question, your hypothesis, your survey experiment, and your findings; (b) a brief argument section where you describing your hypothesis; (c) a brief research design section where you describe the survey, your group's survey experiment, and your proposed data analysis; and (d) a final section where you present, interpret and discuss your findings. *Your report will be graded for substance, clarity and the degree to which your proposed design can*

adequately help you answer your research question. In terms of formatting, your report should be no longer that 7 pages excluding references (Times New Roman font size 12, 1-inch margins and 1.5 spacing). You should cite your references using the Chicago-Style.

In terms of formatting, your first draft should be no longer that 5 pages excluding references (Times New Roman font size 12, 1-inch margins and 1.5 spacing). You should cite your references using the Chicago-Style.
After you submit your first draft you will receive feedback from the instructor to improve your proposal. You are expected to incorporate that feedback as you prepare your presentation (Week 15), as well as your final draft (due by 23:00 on **December 9**).

Students will present their research proposals during the last week of classes (Week 15). Each presentation should last no longer than 15 minutes, and will be followed by a 10-minute feedback session. Your presentation will be graded for substance, clarity and the way you handle questions from your peers. Additionally, you will also be graded on the feedback you give your peers.

Extra Credit

Students often find themselves a percentage point or two shy from their desired final grade (e.g., a 89% but they want to earn an A- for their final grade). To address these concerns—and mitigate any panicked emails at the end of the semester—I offer optional exercises for extra credit points in some problem sets. In total, *you may be able to earn up to 2 percentage points of extra credit.*

Grading Scale

Table 1 shows the grading scale I will use to assign letter grades for this class.

Table 1: Grading Scale

Letter Grade	Points Range
A	[93,100]
A-	[90,93)
B+	[87,90)
B	[83,87)
B-	[80,83)
C+	[77,80)
C	[73,77)
C-	[70,73)
D+	[67,70)
D	[60,67)
F	[0,60)

Course Policies

Late Submissions

- Problem sets: 1 full point will be deducted for *every day late*.
- All other assignments: **Late assignments will not be accepted, unless the instructor has granted a prior extension**. The only exceptions to this policy are *documented* cases of serious illness or family tragedy.

Therefore, *you are strongly encouraged to start working on your assignments early*, and to attend class and office hours to have questions answered promptly.

Attendance

Class attendance is required and this class cannot succeed without your participation. Also note that you cannot succeed in this class if you show up to class without previously having read the assigned material. As an instructor, I believe it is essential to reward students who come to class ready to learn and contribute to our discussions. To keep attendance, I will pass around a sign-in sheet for every class and enter this information into the Attendance record on Canvas.

In the event of excessive absences, grade penalties will be applied. According to the USU General Catalog, "Excused absences may not exceed 20% of the class meetings." Students with excessive absences will receive penalties on their final average. Students whose attendance is below 80% will be subject to letter-grade deductions, ranging from partial to full penalties depending on the number of absences. Students whose attendance is at or below 60% are at risk for failing the course.

Communication and Office Hours

I use emails and announcements on Canvas to communicate with students. Please check Canvas frequently throughout the semester.

You should feel free to email me with any specific questions about course materials or logistics. Please treat your email as a professional correspondence and be as clear and specific as possible. Also, please include "PS3000" at the beginning of the subject line.

I will hold weekly office hours on Thursday mornings. As indicated at the top of the syllabus, you must sign up for them using this link. If you are unavailable during this time period, feel free to email me to schedule a separate appointment.

Collaboration With Other Students

While completing assignments, I encourage you to engage with your instructor and collaborate with your peers for discussions and support. However, for individual assignments, it is essential that you submit your own original work. Sharing answers, including those for online quizzes or exams, is strictly prohibited. Submissions that appear excessively similar will be thoroughly reviewed for

potential academic misconduct (see policy below).

Use of AI Tools

You are welcome to use generative AI tools, such as ChatGPT, to assist you with your work in the course. In doing so, it is important to remember that such AI tools are capable of making errors, and that it is each student's responsibility to verify the information they receive from such tools. In addition, any information obtained from a generative AI source must be noted/cited in the student's work, just as they would cite any other source.

Technical Problems

It is your responsibility to ensure that you can access the material posted on Canvas, and that you can use the Canvas site to take quizzes and submit your work. I cannot troubleshoot technical problems for all students, so you should consult the online Service Desk or contact their phone number at (435)-797-HELP or email `servicedesk@usu.edu`. If you are having a problem with Canvas, a good first step is to try a different internet browser or computer.

Academic Integrity

The University expects that students and faculty alike maintain the highest standards of academic honesty. The Code of Policies and Procedures for Students at Utah State University (Student Conduct) addresses academic integrity and honesty and notes the following:

Academic Integrity

> Students have a responsibility to promote academic integrity at the University by not participating in or facilitating others' participation in any act of academic dishonesty and by reporting all violations or suspected violations of the Academic Integrity Standard to their instructors.

The Honor Pledge

> To enhance the learning environment at Utah State University and to develop student academic integrity, each student agrees to the following Honor Pledge: "I pledge, on my honor, to conduct myself with the foremost level of academic integrity." Violations of the Academic Integrity Standard (academic violations) include, but are not limited to cheating, falsification, and plagiarism.

Plagiarism

> Plagiarism includes knowingly **"representing, by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgment. It also includes using materials prepared by another person or by an agency engaged in the sale of term papers or other academic materials."** The penalties for plagiarism are severe. They include warning or reprimand, grade adjustment, probation, suspension, expulsion, withholding of transcripts, denial or revocation of degrees, and referral to psychological counseling.

Students with Disabilities

USU welcomes students with disabilities. If you have, or suspect you may have, a physical, mental health, or learning disability that may require accommodations in this course, please contact the Disability Resource Center (DRC) as early in the semester as possible (University Inn #101, 435-797-2444, drc@usu.edu). All disability related accommodations must be approved by the DRC. Once approved, the DRC will coordinate with faculty to provide accommodations.

Mental Health

Mental health is critically important for the success of USU students. As a student, you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce your ability to participate in daily activities. Utah State University provides free services for students to assist them with addressing these and other concerns. You can learn more about the broad range of confidential mental health services available on campus at Counseling and Psychological Services (CAPS).

Students are also encouraged to download the SafeUT App to their smartphones. The SafeUT application is a 24/7 statewide crisis text and tip service that provides real-time crisis intervention to students through texting and a confidential tip program that can help anyone with emotional crises, bullying, relationship problems, mental health, or suicide related issues.

Sexual Harassment

Utah State University is committed to creating and maintaining an environment free from acts of sexual misconduct and discrimination and to fostering respect and dignity for all members of the USU community. Title IX and USU Policy 339 address sexual harassment in the workplace and academic setting.

The university responds promptly upon learning of any form of possible discrimination or sexual misconduct. Any individual may contact USU's Affirmative Action/Equal Opportunity (AA/EO) Office for available options and resources or clarification. The university has established a complaint procedure to handle all types of discrimination complaints, including sexual harassment (USU Policy 305), and has designated the AA/EO Director/Title IX Coordinator as the official responsible for receiving and investigating complaints of sexual harassment.

Schedule and Reading Assignments

Week 1: Introduction to the Course and Introduction to R I

- Jan 7 - Introduction to the course.
  - Before class:
    - Read the syllabus
- Jan 9 - Programming Lab 1: Introduction to R.
  - Before class:
    - Read Chapter 1 (sections 1.1-1.6) of Llaudet & Imai (2022).
    - Watch the pre-lab lecture (available on Canvas), install R following the instructions given, and *complete the short assignment.*

Week 2: Research Questions and Introduction to Statistical Inference

- Jan 14 - Research Questions
  - Before class:
    - Read Chapters 1 & 2 of Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality.* CRC Press. (Available online here and here)
- Jan 16 - Statistical Inference and Survey Research
  - Before class:
    - Read Chapter 6 of de Mesquita, Ethan Bueno., and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis.* Princeton University Press. (Available on Canvas).
    - Read Chapter 3 (section 3.2) of Llaudet & Imai (2022).
    - Read Wilke, Anna. *10 Things to Know About Sampling.* (Available online here). *Skip sections 7 and 10.*
  - Assignments due:
    - Quiz 1 due by 15:00.
    - Group Assignment part 1 due by 23:00.

Week 3: Describing Variables

- Jan 21 - Programming Lab 2: Describing Variables and Introduction to Data Visualization with R.
  - Before class:
    - Read Chapter 3 (3.1-3.4) of Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality.* CRC Press. (Available online here)
    - Read Chapter 3 (sections (3.1-3.4) of Llaudet & Imai (2022).
- Jan 23 - Programming Lab 2 (cont.): Describing Variables and Introduction to Data Visualization with R.

- Before class:
  - Read Chapter 3 (3.1-3.4) of Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality.* CRC Press. (Available online here)
  - Read Chapter 3 (sections (3.1-3.4) of Llaudet & Imai (2022).
- Assignments due:
  - Quiz 2 due by 15:00.

Week 4: Describing Relations

- Jan 28 - Programming Lab 3: Correlation and Describing Relations with R.
  - Before class:
    - Read Chapter 2 of de Mesquita, Ethan Bueno., and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis.* Princeton University Press. (Available on Canvas).
    - Read Chapter 3 (sections (3.5-3.7) of Llaudet & Imai (2022).
- Jan 30 - Programming Lab 3 (cont.): Correlation and Describing Relations with R.
  - Before class:
    - Read Chapter 2 of de Mesquita, Ethan Bueno., and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis.* Princeton University Press. (Available on Canvas).
    - Read Chapter 3 (sections (3.5-3.7) of Llaudet & Imai (2022).
  - Assignments due:
    - Quiz 3 due by 15:00.

Week 5: Causality and Experiments

- Feb 4 - Causality and Experiments
  - Before class:
    - Read Chapter 3 of de Mesquita, Ethan Bueno., and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis.* Princeton University Press. (Available on Canvas).
    - Read Chapter 2 (sections 2.1-2.4) of Llaudet & Imai (2022).
- Feb 6 - Programming Lab 4: Analyzing data from experiments with R.
  - Before class:
    - Read Chapter 2, (section 2.5-2.7) of Llaudet & Imai (2022).
  - Assignments due:
    - Quiz 4 due by 15:00.
    - Problem set 1 due by 23:00.

Week 6: Survey Design and Survey Experiments

- Feb 11 - Introduction to Survey Experiments

  - Before class:
    * Read Grady, Christopher. *10 Things to Know About Survey Experiments.* (Available online here)

- Feb 13 - Survey design group activity.
  - Before class:
    * Read Lupu, Noam, and Kristin Michelitch. 2018. "Advances in survey methods for the developing world." *Annual Review of Political Science* 21: 195-214. (Available on Canvas).
    * Read Krosnick, Jon A., and Stanley Presser. 2010. "Question and Questionnaire Design." In James D. Wright and Peter V. Marsden, eds., *Handbook of Survey Research*, 2nd ed. San Diego, CA: Elsevier, pp. 263–314. (Available on Canvas).
  - Assignments due:
    * Quiz 5 due by 15:00.
    * Group Assignment part 2 due by 23:00.

Week 7: Regression for Describing and Forecasting

- Feb 18 - Linear Regression
  - Before class:
    * Read Chapter 4 of Llaudet & Imai (2022).

- Feb 20 - Programming Lab 5: Linear regression for forecasting with R.
  - Before class:
    * Read Chapter 4 of Llaudet & Imai (2022).
  - Assignments due:
    * Quiz 6 due by 15:00.
    * Problem set 2 due by 23:00.

Week 8: Estimating Causal Effects with Observational Data I

- Feb 25 - Causal Inference with Observational Data
  - Before class:
    * Read Chapter 5 of Llaudet & Imai.
    * Read Chapter 10 of de Mesquita, Ethan Bueno., and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis.* Princeton University Press. (Available on Canvas).

- Feb 27 - Programming Lab 6: Causal inference with observational data using R.
  - Before class:
    * Read Chapter 5 of Llaudet & Imai.
    * Read Chapter 10 of de Mesquita, Ethan Bueno., and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis.* Princeton University Press. (Available on Canvas).

  - Assignments due:
    * Quiz 7 due by 15:00.

Week 9: Estimating Causal Effects with Observational Data II

- Mar 4 - Natural Experiments
  - Before class:
    * Read Chapter 2 of Dunning, Thad. 2012. *Natural Experiments in the Social Sciences: A Design-Based Approach.* Cambridge University Press. (Available on Canvas).
- Mar 6 - **No meeting**
  - Assignments due:
    * **Take-home midterm due by 23:00.**

Week 10: Spring Break

- Mar 11 - **No meeting**
- Mar 13 - **No meeting**

Week 11: Introduction to Probability

- Mar 18 - Probability, Random Variables
  - Before class:
    * Read Chapter 6 (sections 6.1-6.4) of Llaudet & Imai (2022).
- Mar 20 - Large Sample Theorems
  - Before class:
    * Read Chapter 6 (sections 6.5-6.8) of Llaudet & Imai (2022).
  - Assignments due:
    * Quiz 8 due by 15:00.
    * Problem set 3 due by 23:00.

Week 12: Quantifying Uncertainty, Confidence Intervals & Hypothesis Testing

- Mar 25 - Programming Lab 7: Confidence intervals and hypothesis testing.
  - Before class:
    * Read Chapter 7 (sections 7.1-7.2) of Llaudet & Imai (2022).
    * (Re-)Read Chapter 6 of de Mesquita, Ethan Bueno., and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis.* Princeton University Press. (Available on Canvas).
- Mar 27 - Programming Lab 7 (cont.): Confidence intervals and hypothesis testing.
  - Before class:
    * Read Chapter 7 (sections 7.3-7.5) of Llaudet & Imai (2022).

    - (Re-)Read Chapter 6 of de Mesquita, Ethan Bueno., and Anthony Fowler. 2021. *Thinking clearly with data: A guide to quantitative reasoning and analysis.* Princeton University Press. (Available on Canvas).
  - Assignments due:
    - Quiz 9 due by 15:00.

Week 13: Estimation, Linear Regressions for Experiments

- Apr 1 - Programming Lab 8: Replication of causality and experiments week.
  - Before class:
    - *No assigned reading.*
- Apr 3 - Programming Lab 8 (cont): Replication of causality and experiments week.
  - Before class:
    - *No assigned reading.*
  - Assignments due:
    - Quiz 10 due by 15:00.

Week 14: Estimation, Linear Regressions for Observational Studies I

- Apr 8 - Programming Lab 9: Clustering standard errors.
  - Before class:
    - Read Chapter 13 (13.1 and 13.3) of Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality.* CRC Press. (Available online here and here.)
- Apr 10 - Programming Lab 9 (cont.): Clustering standard errors.
  - Before class:
    - Read Chapter 13 (13.1 and 13.3) of Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality.* CRC Press. (Available online here and here.)
  - Assignments due:
    - Quiz 11 due by 15:00.

Week 15: Estimation, Linear Regressions for Observational Studies II

- Apr 15 - Programming Lab 10: Interactions.
  - Before class:
    - Read Chapter 13 (13.2.4) of Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality.* CRC Press. (Available online here.)
- Apr 17 - Programming Lab 10 (cont.): Interactions.
  - Before class:

    - Read Chapter 13 (13.2.4) of Huntington-Klein, Nick. 2021. *The Effect: An Introduction to Research Design and Causality.* CRC Press. (Available online here.)
  - Assignments due:
    - Quiz 12 due by 15:00.
    - Problem set 4 due by 18:00.

Week 16: Finals Week

- Apr 22 - In-Class work on Final Project.
  - Before class:
    - *No assigned reading.*
- Apr 25 - There is no class meeting, but:
  - Problem set 5 is due by 18:00 *if you decided to do it.*
  - **Group Assignment part 3 is due by 18:00.**