



ALBERS

SCHOOL OF BUSINESS
AND ECONOMICS

Applied Econometrics

ECON 4110 | 3 credit hours

Spring 2022

Instructor: Nick Huntington-Klein

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COURSE DESCRIPTION

In this course we will learn how to use data analysis to learn things about the world. This will require us to learn how to model the world, how to reduce our Inferential error, and how to reduce our Identification error so as to get at the underlying mechanisms we want to understand for business purposes or otherwise.

OFFICE HOURS

I will be holding regular office hours every **Monday, Wednesday, and Friday** from 2-2:45PM in my office at Pigott 530, or on Zoom at <https://seattleu.zoom.us/j/91705518001> (note this is not the regular classroom Zoom room; it needs to be different because my other class also uses this one). I recognize not everyone can make these times, and appointment office hours are also available, just email me. The best way to reach me is by email at nhuntington-klein@seattleu.edu. You can also call my phone at 206-296-5815 (physical office phone; it will email me the voicemails if I'm not in).

LEARNING OUTCOMES

On successful completion of this course (i.e. by passing this course), you will be able to

1. Understand the properties of standard econometric analyses and how to perform them In R.
2. Understand the fundamentals of causal Inference and standard designs used In causal Inference.
3. Apply the tools of econometrics to real-world problems.

TEXTS AND MATERIALS

- Required: Bailey's Real Econometrics second edition, which you can find online or in the bookstore.
- [The R Companion to Real Econometrics](#), an online free companion to *Real Econometrics* that focuses on programming. Note that it uses some different commands than we use in class.
- [The Effect: An Introduction to Research Design and Causality](#), a free (if you like) largely non-technical book focusing on the causality side of the class. And it's written by me so you know it lines up real well!
- Additional [resources](#) and [videos](#) on R programming and econometrics
- The [Econometrics Swirl course](#).
- [Mastering Metrics](#) and the [associated video series](#), an accessible textbook that focuses on the causality side of the class.

COURSE OUTLINE

WEEK	TOPICS
1	Research questions and causality
2	Ordinary Least Squares
3	Hypothesis Testing
4	Multivariate Regression
5	Functional Form and Midterm Prep. Begin Data Exploration Project.
6	Midterm and Fixed Effects
7	Difference-in-Difference. Set up groups and begin Data Translation Project. Due at end of week: Data Exploration Project
8-9	Choose-your-own-module: Experiments, Regression Discontinuity Design, Instrumental Variables, or Limited Dependent Variables. Continue group work on Data Translation Project.
10	Data Translation Project Presentation . Data translation project writeup due Saturday.
11	Final Exam

EVALUATION AND GRADING

Assignment	Percentage
Homework:	30 %
Midterm	15 %
Final:	20 %
Data Exploration Project:	10 %
Data Translation Project:	20 %
Swirl completion and Discussion participation:	5 %
Total	100%

EXTRA HEADING POLICY

For extra credit, you may complete one homework assignment and the Swirl lesson for one of the modules at the end of the course that you did not select, for a maximum additional grade of 2%. **Alternately**, you may write a new page (or add a new language to an existing page) at the [Library of Statistical Techniques](#) for the same 2%.

Note that the below grade cutoffs are hard cutoffs. 93.9 really is an A-, not an A. Sorry, the cutoffs have to be somewhere! If you do not like this, lobby the admin to allow us to report exact percentage grades.

Point scale	Letter grade
94.0% and higher	A
90.0% - 93.9%	A-
87.0% - 89.9%	B+
84.0% - 86.9%	B
80.0% - 83.9%	B-
77.0% - 79.9%	C+
74.0% - 76.9%	C
70.0% - 73.9%	C-

COURSE POLICIES

ATTENDANCE

You are expected to be present at all class sessions, ideally in-person for this in-person class, or by video livestream in case of quarantine or other important considerations. Recordings will be available after class for anything missed, but I strongly recommend against relying on them, as they are definitely of lower quality than being present at the time. Active participation is an essential and intrinsic element of the education process. Absence affects the learning experience and erodes the program's norms for

quality. Inactivity in the course may result in a grade reduction at the discretion of the instructor(s).

INTERNET ACCESS

We will use a variety of online applications to communicate and collaborate. As such, you will need a reliable, high-speed Internet connection for the duration of this course. If you are traveling to countries such as China, Vietnam, Saudi Arabia, Iran, Burma, and others, some content in this course may be blocked. Please contact me immediately if you will be traveling to a country that may block Internet access during any portion of this class.

LATE WORK

Assignments should be submitted by the set deadlines. Exceptions or extensions or modifications to these penalties may be made only in the event of rare and extenuating circumstances. Every effort should be made to let your professor(s) know about your extenuating circumstances before the assignment is due. Outside of extenuating circumstances, all late work should be turned in at most one week after the due date, and will be subject to a 10% grade markdown. I am continuing to be pretty flexible about late work through the pandemic, but don't make the mistake of taking advantage of this too much – it will likely not be helpful when exam day comes.

UNIVERSITY RESOURCES & POLICIES

ACADEMIC RESOURCES

- [Library and Learning Commons](#)

Research Services, Learning Assistance, Writing Center, Math Lab, Media Production Center

- [Academic Integrity](#)

ACADEMIC POLICIES

- [Academic Integrity Policy](#)

- [Academic Grading Grievance Policy](#)

- **Support for Students with Disabilities**

If you have, or think you may have, a disability (including an “invisible disability” such as a learning disability, a chronic health problem, or a mental health condition) that interferes with your performance as a student in this class, you are encouraged to arrange support services and/or accommodations through Disabilities Services staff located in Loyola 100, (206) 296-5740. Disability-based adjustments to course expectations can be arranged only through this process.

- **Notice Regarding Religious Accommodations**

It is the policy of Seattle University to reasonably accommodate students who, due to the observance of religious holidays, expect to be absent or endure a significant hardship during certain days of their academic course or program. Please see, [Policy on Religious Accommodations for Students](#).

- **Office of Institutional Equity**

Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination based on sex in educational programs or activities that receive Federal financial assistance. This prohibition includes sexual misconduct, which encompasses sexual harassment and sexual violence. Seattle U remains committed to providing a safe and equitable learning, living, and working environment. Seattle U offers emergency, medical, and other support resources, as well as assistance with safety and support measures, to community members who have experienced or been impacted by sexual misconduct.

Seattle U requires all faculty and staff to notify the University’s Title IX Coordinator if they become aware of any incident of sexual misconduct experienced by a student.

For more information, please visit <https://www.seattleu.edu/equity/>. If you have any questions or concerns, you may also directly contact the Title IX Coordinator in the Office of Institutional Equity by email: oiie@seattleu.edu or phone: (206) 296-2824.