

**EDS 241
Environmental Policy Evaluation**

Course Overview and Objectives:

This course will present state of the art program evaluation techniques necessary to evaluate the impact of environmental policies. The program evaluation methods presented aim at identifying and measuring the causal effect of policies, regulations, and interventions on environmental outcomes of interest. Students will learn the research designs and methods for estimating causal effects with experimental and non-experimental data. This will prepare the students for interpreting and conducting high-quality empirical research, with applications in cross-sectional data and panel data settings.

Note: The class material is technical and appears abstract at times. But relevant real world examples will help to grasp the concepts and understand how their application works. Practice with assignments, being active in class, and patience will help!

Big thanks to former instructor Olivier Deschenes for providing his material as the basis for this instance of EDS 241

Class time: Tuesdays & Thursdays, 12:30-1:45, Bren 1424

Course website: Canvas

Office Hours: Thursdays 3:30-4:30 or by appointment (heckelei@ucsb.edu), 5813 Ellison Hall

Teaching Assistant:

Elliott Finn (elliottfinn@ucsb.edu)

Office Hours: Tuesdays 2-4 PM, Bren Hall 3017

Textbooks I take material from (first two for lecture content, last one for R-examples):

Joshua Angrist and Jorn-Steffen Pischke [AP]: *Mostly Harmless Econometrics*, Princeton University Press

Nick Huntington-Klein [HK]: *The Effect: The Effect: An Introduction to Research Design and Causality*, CRC Press (<https://theeffectbook.net/>)

Hanck, C., M. Arnold, A. Gerber, and M. Schmelzer [HAGS]: Introduction to Econometrics with R", University of Duisburg Essen, (<https://www.econometrics-with-r.org/>)

Evaluation:

Empirical Assignments: 50% (two assignments worth 25% each)

- Assignment 1: Due Monday Week 3, 11:59 PM (01/22/24)
- Assignment 2: Due Monday Week 5, 11:59 PM (02/05/24)

Final Take-Home Examination: 50% (held during the examination period)

- **Due, Friday Week 6, 02/16/24, 5 PM (02/05/24)**

Individual Assignments:

The empirical assignments are designed to apply and expand the class material. Students can work together, but the student must turn in their own copy. All assignments must be submitted in pdf format through GauchoSpace.

On Canvas, you will find a section entitled “**Assignment Turn-In Area**”: - Click the relevant assignment

- Upload a PDF with your answers for the assignment (usually a combination of code and R output). **We recommend R-Markdown to prepare your assignment solution.**

Note: Late assignments will not be graded.

Final Examination:

The students will write an individual take-home examination, held during the exam week. The exam will be composed of empirical questions and similar to the empirical assignments.

Academic Dishonesty and Code of Conduct:

Following the university’s policy on academic conduct, all academic dishonesty, such as plagiarism, and other forms of cheating will be met with disciplinary actions. *This is mostly relevant to the take-home final exam, which is to be done individually.*

Tentative Course Outline (adjustments likely as we go along):

Dates	Topics	Suggested Readings
1/9	Introduction and Overview	EDS 222
1/11	Potential Outcomes and Fundamental Problem of Causal Inference	AP, Chapters 1-2
1/16	Analysis of Experimental Data	AP, Chapters 1-2
1/18	Regression and matching	EDS 222 AP, Chapter 3 HK, Chapter 13/14

1/23	Regression and Matching ctd.	EDS 222 AP, Chapter 3 HK, Chapter 13/14
1/25	Panel Data	AP, Chapter 5 HK, Chapters 16-17
1/30	Difference in Difference	AP, Chapter 8 HK, Chapter 18
2/1	Instrumental Variables	HK, Chapter 19
2/6	Regression Discontinuity	AP Chapter 6, HK Chapter 20
2/8	Finishing Things Up	

Access, accommodations and conduct (taken from Tamma Carleton's syllabus)

Course conduct: All students are expected to read and comply with the UCSB Code of Conduct (<https://www.sa.ucsb.edu/regulations/student-conduct-code/student-conduct-code>). We are committed to making this course a welcoming and inclusive environment for everyone, regardless of gender, gender identity and expression, race, age, sexual orientation, disability, physical appearance, or religion (or lack thereof). We expect all students to help ensure this environment of inclusivity and will not tolerate harassment of any form.

Access and Accommodations: Please submit requests for accommodations often and early. It is never too late to apply for DSP accommodations. If you have any kind of disability, whether apparent or non-apparent, learning, emotional, physical, or cognitive you may be eligible to use formal accessibility services on campus. To arrange class-related accommodations, please contact DSP. DSP will initiate communication about accommodations with faculty. By making a plan through DSP, appropriate accommodations can be implemented without disclosing your specific condition or diagnosis to course instructors.

Additional student resources:

The text below is provided by the UCSB Disabled Students Program.

Counseling and Psychological Services (CAPS). 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. CAPS is available to assist you with addressing these and other concerns you may be experiencing. You can learn more about the broad range of confidential mental health services available on campus. They can be reached by phone at 805.893.4411, or online at <http://caps.sa.ucsb.edu>.

Food insecurity: <http://food.ucsb.edu/> includes the Cal Fresh Program <http://food.ucsb.edu/calfresh> and the Associated Students food bank <https://foodbank.as.ucsb.edu>.

Resource Center for Sexual and Gender Diversity (RCSGD) in the SRB, offers a host of services for LGBTQI+ students including a library and many events throughout the year. <http://rcsgd.sa.ucsb.edu/>.

Dream Scholars/Undocumented Student Services Program offers workshops, helps students find scholarships and financial support as well as providing community for our undocumented students. <http://www.sa.ucsb.edu/dreamscholars/home>.

Campus Learning Assistance Services (CLAS) helps students grow academically by offering workshops, walk-in and pre-scheduled tutoring, and writing help both for native and non-native (ESL) English as a second language speakers. Over 50% of students will stop by CLAS at one time or another. <http://clas.sa.ucsb.edu>.

Student Resource Building (SRB) houses many campus resources offices, including the African Diasporic Cultural resource Center, the American Indian Resource Center, the Asian Resource Center, the Middle Eastern Resource Center, the Non-Traditional and Re-Entry Student Resource Center. <http://www.sa.ucsb.edu/student-resource-building/home>.

Multicultural Center (MCC), located in UCEN, hosts a wide variety of cultural events and educational programming throughout the year, including film showings, lectures, musical performances, and more: <http://mcc.sa.ucsb.edu/>.

Campus Advocacy, Resources, & Education (CARE) offers 24/7 confidential support and advocacy in situations of sexual assault, dating and domestic violence, and stalking. Located in the SRB, they can be reached at 805.893.4613 or <http://wgse.sa.ucsb.edu/care/home>.

Financial Crisis Response Team: If you are experiencing issues of housing insecurity contact the Financial Crisis Response Team at financialcrisis@sa.ucsb.edu to begin application for assistance.

Health and Wellness: Student well-being is integral to academic success, student development, and life satisfaction. On this website, students will find links to a range of services related to well-being such as: assistance with basic needs (food, housing, finances); counseling and physical health resources, daily wellness centers and programs; social connection, and personal safety. <https://wellbeing.ucsb.edu/>.