

Preliminary Schedule: Causal inference in environmental and social science – SAGM002

	Time	Day 1: May 30 2022	Day 2: May 31 2022	Day 3: June 01 2022	Day 4: June 02 2022	Day 5: June 03 2022
Lectures	10-12h	Greetings, <i>Introduction to Causal inference</i> , and randomized controlled trials	<i>(Semi) Natural Experiments:</i> Difference-in-differences, two-way fixed effects	<i>Simulated Counterfactuals:</i> matching methods, synthetic controls,	<i>Instruments & Interruptions:</i> instrumental variables, regression discontinuity design	<i>Cutting edges:</i> Structural equation modeling, Bayesian inference and machine learning techniques
Seminars	13-15h	<i>Replication:</i> Jayachandran, S. et al. (2017). Cash for carbon: A randomized trial of payments for ecosystem services to reduce deforestation. <i>Science</i> , 357(6348), 267-273.	<i>Replications:</i> Card, D., & Krueger, A. B. (1994). Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania. <i>AER</i> , 84(4), 772-793.	<i>Replications:</i> LaLonde, R. J. (1986). Evaluating the econometric evaluations of training programs with experimental data. <i>AER</i> , 604-620.	<i>Replications:</i> Abou-Chadi, T., & Krause, W. (2020). The causal effect of radical right success on mainstream parties' policy positions: A regression discontinuity approach. <i>BJPS</i> , 50(3), 829-847.	<i>Student presentations of own project ideas</i>
Consultations	15-16h	./.	./.	./.	./.	./.

Recommended preparatory reading:

- Keele, L. (2015). The statistics of causal inference: A view from political methodology. *Political Analysis*, 23(3), 313-335.
- Plantinga, A. J. (2021). Recent Advances in Empirical Land-Use Modeling. *Annual Review of Resource Economics*, 13, 1-15.
- Cinelli, C. et al. (2022). A Crash Course in Good and Bad Controls. Technical Report R-493.