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

	Time	**Day 1:** April 22, 2024	**Day 2:** April 23, 2024	**Day 3:** April 24, 2024	**Day 4:** April 25, 2024	**Day 5:** April 26 2024
Lectures	10-12h	Greetings, *Introduction to Causal inference*, and randomized controlled trials	*(Semi) Natural Experiments*: Difference-in-differences, two-way fixed effects	*Simulated Counterfactuals*: matching methods, synthetic controls,	*Instruments & Interruptions*: instrumental variables, regression discontinuity design	*Cutting edges:* Structural causal models and Bayesian inference
Seminars	13-15h	*Replication:* Jayachandran, S. et al. (2017). Cash for carbon: A randomized trial of payments for ecosystem services to reduce deforestation. *Science*, *357*(6348), 267-273.	*Replications:* Card, D., & Krueger, A. B. (1994). Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania. *AER*, *84*(4), 772-793. .	*Replications:* LaLonde, R. J. (1986). Evaluating the econometric evaluations of training programs with experimental data. *AER*, 604-620.	*Replications:* Binder, S., & Neumayer, E. (2005). Environmental pressure group strength and air pollution: An empirical analysis. *Ecological economics*, *55*(4), 527-538.	*Student presentations of own project ideas*
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. https://doi.org/10.1093/pan/mpv007
- Plantinga, A. J. (2021). Recent Advances in Empirical Land-Use Modeling. *Annual Review of Resource Economics*, *13*, 1-15. https://doi.org/10.1146/annurev-resource-100620-045839
- Cinelli, C., Forney, A., & Pearl, J. (2020). A crash course in good and bad controls. *Sociological Methods & Research*, 00491241221099552. https://doi.org/10.1177/00491241221099552

See also the course github pages: https://github.com/NilsDroste/CausalInference/