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

	Time	**Day 1:** May 10 2021	**Day 2:** May 11 2021	**Day 3:** May 12 2021	**Day 4:** May 13 2021	**Day 5:** May 14 2021
Lectures	10-12h	Greetings, *Introduction to Causal inference*, and randomized controlled trials	*(Semi) Natural Experiments*: Panel data regressions, two-way fixed effects, and recent corrections for staggered treatment	*Simulated Counterfactuals*: matching methods synthetic controls, and Bayesian Structural time series	*Instruments & Interruptions*: instrumental variables, regression discontinuity design	*Cutting edges:* Structural equation modelling for causal inference (and machine learning techniques?)
Seminars (may be subject to changes)	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.	*Replication:* Marcus, M., & Sant'Anna, P. H. (2021). The role of parallel trends in event study settings: An application to environmental economics. *Journal of the Association of Environmental and Resource Economists*, *8*(2), 235-275.	*Replication:* Ferraro, P. J., & Hanauer, M. M. (2014). Quantifying causal mechanisms to determine how protected areas affect poverty through changes in ecosystem services and infrastructure. *PNAS*, 111(11), 4332-4337.	*Replication:* Kim, S. E., & Urpelainen, J. (2017). The polarization of American environmental policy: A regression discontinuity analysis of Senate and House votes, 1971–2013. *Review of Policy Research*, 34(4), 456-484.	*Student presentations of own project ideas*
Consultations	15-16h	./.	./.	./.	./.	./.