**Planned schedule**

**May 5th to 15th 2022**

Day 1: Foundations of causality

* Potential outcomes
* Randomization, selection bias and heterogeneity bias
* Fisher’s sharp null and randomization inference
* Directed acyclic graphs
* Backdoor criterion, colliders and frontdoor criterion

Day 2: Instrumental variables

* IV DAG and Intuition
* Constant treatment effects, Wald and 2SLS
* Finite sample bias and weak instruments
* Heterogeneous treatment effects and the LATE theorem
* Data visualization and other tips

Day 3: Regression discontinuity design

Day 4: Difference-in-differences

* History and people
* Diff-in-diff equation, the 2x2, and parallel trends
* OLS and twoway fixed effects
* Robustness: Event studies, triple differences, falsifications, sample selection, repeated cross section
* Differential timing, Bacon decomposition, Callaway and Sant’Anna, Sun and Abraham

Day 5: Synthetic control and selection on observables

* Continuation of remaining difference-in-differences
* Synthetic control
* *Propensity score matching*
* *Nearest neighbor matching*