



**Academic Honesty:**

Attention is drawn to University policy and regulations on honesty in academic work to the disciplinary guidelines and procedures applicable to breaches of such policy regulations. Details may be found at <http://www.cuhk.edu.hk/policy/academichonesty/>.

## TENTATIVE SCHEDULE OF LECTURES

- Lecture 1**  
(Jan 10)      **Introduction**  
Kleinberg, Jon, Jens Ludwig, Sendhil Mullainathan, and Ziad Obermeyer (2015) “Prediction Policy Problem,” *American Economic Review Papers and Proceedings*, 105(5): 491-495.  
Athey, Susan and Guido Imbens (2017) “The State of Applied Econometrics: Causality and Policy Evaluation,” *Journal of Economic Perspectives*, 31(2): 3-32.  
Imbens, Guido and Jeffrey Wooldridge (2009) “Recent Developments in the Econometrics of Program Evaluation,” *Journal of Economic Literature*, 47(1): 5-86.
- Lectures 2**  
(Jan 17)      **Rubin Causal Model**  
Imbens & Rubin Chapter 1  
Holland, Paul (1986) “Statistics and Causal Inference,” *Journal of the American Statistical Association*, 81(396): 945-960.
- Lectures 3**  
(Jan 31)      **Randomization and Causality**  
Angrist & Pischke Chapter 2  
Imbens & Rubin Chapter 4
- Lectures 4, 5**  
(Feb 7, Feb 14)      **Regression and Causality**  
Angrist & Pischke Chapter 3
- Lectures 6, 7**  
(Feb 21, Feb 28)      **Instrumental Variables Estimation**  
Angrist & Pischke Chapter 4  
Angrist, Josh and Alan Krueger (2001) “Instrumental Variables and the Search for Identification: From Supply and Demand to Natural Experiment,” *Journal of Economic Perspectives*, 15(4): 69-84.  
Angrist, Josh, Guido Imbens, and Donald Rubin (1996) “Identification of Causal Effects Using Instrumental Variables,” *Journal of the American Statistical Association*, 91(434): 444-455.  
Zhang, Hongliang (2016) “Identification of Treatment Effect under Imperfect Matching with An Application to Chinese Elite Schools,” *Journal of Public Economics*, 142: 56-82.
- Lecture 8**  
(Mar 7)      **Exact and Propensity Score Matching**  
Imbens & Rubin Chapter 13  
Dale, Stacy and Alan Krueger (2002) “Estimating the Payoff to Attending a More Selective College: An Application of Selection on Observables and Unobservables,” *Quarterly Journal of Economics*, 117(4): 1491-1527.
- Lecture 9**  
(Mar 14)      **Synthetic Control Methods**  
Abadie, Alberto, Alexis Diamond, and Jens Hainmueller (2010) “Synthetic Control Methods for Comparative Case Studies: Estimating the Effect of California’s Tobacco Control Program,” *Journal of the American Statistical Association*, 105(490): 493-505.
- Lecture 10**  
(Mar 21)      **Difference-in-Differences**  
Angrist & Pischke Chapter 5  
Card, David and Alan Krueger (1994) “Minimum Wages and Employment: A Case Study of the Fast Food Industry in New Jersey and Pennsylvania,” *American Economic Review*, 84(4): 772-784.
- Lecture 11**  
(Mar 28)      **Two-way Fixed-effect Estimation with Heterogeneous Treatment Effects**  
De Chaisemartin, Clement and Xavier D’Haultfoeuille (2020) “Two-way Fixed Effects Estimators with Heterogeneous Treatment Effects,” *American Economic Review*, 110(9): 2964-2996.

Callaway, Brantly and Pedro Sant'Anna (2021) "Difference-in-Differences with Multiple Time Periods," *Journal of Econometrics*, 225: 200-230.

**Lecture 12**      **Regression Discontinuity Designs**

(Apr 4)

Angrist & Pischke Chapter 6

Lee, David and Thomas Lemieux (2010) "Regression Discontinuity Designs in Economics," *Journal of Economic Perspectives*, 48(2): 281-355.

**Lecture 13**      **Prediction Policy Problem**

(Apr 11)

Mullainathan, Sendhil and Jann Spiess (2017) "Machine Learning: An Applied Econometric Approach," *Journal of Economic Perspectives*, 31(2): 87-106.

Last lecture

Einav, Liran, Amy Finkelstein, Sendhil Mullainathan, Ziad Obermeyer (2018) "Predictive Modeling of U.S. Health Care Spending in Late Life," *Science*, 360(6396): 1462-1465.

**Apr 25**

**Final Exam (Venue and Time: To be confirmed)**