

## Economics 336: Analytical Methods for Public Policy (Fall 2021)

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An important practical objective of empirical economic research is to predict the consequences of alternative public policies. Economists combine data with assumptions to draw conclusions about policy impacts. The strength and credibility of these conclusions depend on the data and assumptions brought to bear, as well as on the analytical methods used. This course studies basic methodological problems in policy analysis and examines how economists perform policy analysis in practice.

The prerequisites are courses in microeconomics at or above Economics 310-1 and econometrics at or above Economics 281, preferably Econometrics 381. Instruction includes lectures and class discussion. Examination of methodology and applications occurs throughout the course. Grading is based on multiple short essays/problems (10 points), a midterm briefing paper on an assigned topic in policy analysis (30 points), and a student-initiated final research paper that assesses some aspect of policy research (60 points).

Instruction in this course seeks to promote academic freedom of expression, as discussed in the 2007 report of the AAUP on Freedom in the Classroom: <https://www.aaup.org/AAUP/comm/rep/A/class.htm>

### Texts

C. Manski, *Identification for Prediction and Decision* (IPD), Harvard University Press, 2007 (required)

C. Manski, *Patient Care under Uncertainty World* (PCU), Princeton University Press, 2019 (required)

### **Syllabus** (tentative)

#### Communicating Uncertainty in Policy Analysis (9/21, 9/23)

Manski, C., "Communicating Uncertainty in Policy Analysis," *Proceedings of the National Academy of Sciences*, Vol. 116, No. 16, 2019, pp. 7634-7641.

#### Predicting Policy Outcomes (9/28, 9/30, 10/5, 10/7)

IPD Chapters 1, 2, 7

#### Patient Care under Uncertainty (10/12, 10/14, 10/19, 10/21, 10/26)

PCU Chapters 1, 2, 3, 4, 6

IPD Chapter 11

#### Covid-19 (10/28, 11/2, 11/4, 11/9)

Manski, C. and A. Tetenov, "Statistical Decision Properties of Imprecise Trials Assessing Coronavirus 2019 (COVID-19) Drugs," *Value in Health*, Vol. 24, No. 5, 2021, pp. 641-647.

Manski, C. and F. Molinari, "Estimating the COVID-19 Infection Rate: Anatomy of an Inference Problem," *Journal of Econometrics*, Vol. 220, No. 1, 2021, pp. 181-192.

Manski, C., "Vaccination Planning under Uncertainty, with Application to Covid-19," February 2021.

Manski, C. "Forming COVID-19 Policy under Uncertainty," *Journal of Benefit-Cost Analysis*, Vol. 11, No. 3, 2020, pp. 341-356.

#### More on Benefit-Cost Analysis under Uncertainty (11/11, 11/16, 11/18, 11/23)

Manski, C., A. Sanstad, and S. DeCanio, "Addressing Partial Identification in Climate Modeling and Policy Analysis," *Proceedings of the National Academy of Sciences*, Vol. 118, No. 15, 2021.

Manski, C. and D. Nagin, "Assessing Benefits, Costs, and Disparate Racial Impacts of Confrontational Proactive Policing," *Proceedings of the National Academy of Sciences*, Vol. 114, No. 35, 2017, pp. 9308-9313.

Midterm Essay Due: Tuesday October 26, 9:00 AM

Final Paper Due: Monday December 6, 9:00 AM

## Tentative Lecture Schedule

- 9/21 - introduction to course
- 9/23 - communicating uncertainty in policy analysis (*PNAS* article)
- 9/28 - conditional prediction (*IPD* chap. 1)
- 9/30 - missing outcomes (*IPD* chap. 2)
- 10/5 - analysis of treatment response (*IPD* chap. 7)
- 10/7 - analysis of treatment response (*IPD* chap. 7)
- 10/12 - patient care under uncertainty: introduction, clinical guidelines and judgement (*PCU* chap. 1)
- 10/14 - wishful extrapolation from trials (*PCU* chap. 2)
- 10/19 - credible use of evidence to inform patient care (*PCU* chap. 3)
- 10/21 - reasonable care under uncertainty (*PCU* chap. 4, *IPD* chap. 11)
- 10/26 - population health perspective on reasonable care (*PCU* chap. 6, *IPD* chap. 11)
- 10/28 - statistical decision properties of imprecise trials assessing Covid-19 drugs (*VIH* article)
- 11/2 - bounding the Covid-19 infection rate (*Journal of Econometrics* article)
- 11/4 - vaccination planning under uncertainty, with application to Covid-19 (working paper)
- 11/9 - forming Covid-19 policy under uncertainty (*JBCA* article)
- 11/11 - climate modeling and policy analysis (*PNAS* article)
- 11/16 - climate modeling and policy analysis (*PNAS* article)
- 11/18 - proactive policing policy (*PNAS* article)
- 11/23 - proactive policing policy (*PNAS* article)

The topics to be discussed in the sections will be chosen as the course progresses.

Recording by the Instructor: This class or portions of this class may be recorded by the instructor for educational purposes. Any recordings will be shared only with students enrolled in the course in Canvas and will be deleted at the end of the quarter. *Note that this applies to recording of synchronous class components and not to pre-recorded lectures by the instructor and not featuring student contributions.*

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