ECO 2401 (Second Half)
ECONOMETRICS II

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Winter 2024

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Course website: https://q.utoronto.ca/courses/339406

Class meetings: Tuesday and Thursdays at 9-11am in room GE 100
Office hours: Thursdays 4:00-5:00pm

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1. COURSE DESCRIPTION

This second part of the course deals with econometric methods for the analysis of cross-sectional and panel data. The topics covered are linear panel data models, discrete choice models, random utility models, evaluation of treatment effects, and machine learning.

2. MEETINGS

We will have two meetings per week: Tuesday and Thursdays at 9-11am in room GE 100.

3. EVALUATION

Midterm Exam	35%	Thursday, February 15, 2024, at 9-11am. In class.
Final Exam	35%	During University Exam Period. Date TBA.
Term Paper	30%	Due date by midnight Friday, March 29, 2024.

4. GENERAL REFERENCES

- Amemiya, T. (1985): "Advanced Econometrics," Harvard University Press.
- Arellano, M. (2003): "Panel Data Econometrics," Oxford University Press.
- Cameron, C. and P. Trivedi (2005): "Microeconometrics: Methods and Applications," Cambridge University Press.
- Efron, B., and T. Hastie (2016): "Computer Age Statistical Inference: Algorithms, Evidence, and Data Science," Cambridge University Press.
- Hansen, B. (2022): "Econometrics," Princeton University Press.
- Maddala, G. S. (1983): "Limited-Dependent and Qualitative Variables in Econometrics," Cambridge University Press.
- Manski, C. (2007): "Identification for Prediction and Decision," Harvard University Press.
- Train. K. (2003): "Discrete Choice Methods with Simulation," Cambridge University Press.
- Wooldridge, J. (2001): "Econometric analysis of cross section and panel data," MIT Press.

5. OUTLINE AND REFERENCES

Topic 1: Linear Panel Data Models

  References:
  - Arellano (2003) chapters 2 to 7.
  - Cameron and Trivedi (2005) chapters 21-22.
  - Hansen (2022) chapter 17.
  - Wooldridge (2001) chapters 10-11.

Topic 2: Binary Choice Models

  References:
  - Amemiya (1985) chapter 9.
  - Cameron and Trivedi (2005) chapters 14 and 23.4.
  - Hansen (2022) chapter 25.
  - Maddala (1983) chapters 2 and 3.
  - Manski (2007) chapter 13.
  - Wooldridge (2001) chapter 15.

Topic 3: Random Utility Models

  References:
  - Amemiya (1985) chapter 9.
  - Cameron and Trivedi (2005) chapter 55.
  - Hansen (2022) chapter 26.
  - Maddala (1983) chapter 5.
  - Train (2003) chapters 1 to 10.

Topic 4: Potential Outcomes Model and Estimation of Treatment Effects

  References:
  - Cameron and Trivedi (2005) chapter 25.
  - Manski (2007) chapters 7, 9, and 10.
  - Wooldridge (2001) chapter 18.

Topic 5: Machine Learning

  References:
- Efron and Hastie (2016) chapters 16, 17, and 18.
- Hansen (2022) chapter 29.

SCHEDULE OF LECTURES

WEEK	DATE	TOPIC
Week 7:	Tue. Feb. 27	Linear Panel Data Models: Static models
	Thu. Feb. 29	Linear Panel Data Models: Static models
Week 8:	Tue. Mar. 5	Linear Panel Data Models: Dynamic models
	Thu. Mar. 7	Linear Panel Data Models: Dynamic models
Week 9:	Tue. Mar. 12	Binary Choice Models
	Thu. Mar. 14	Binary Choice Models
Week 10:	Tue. Mar. 19	Random Utility Models
	Thu. Mar. 21	Random Utility Models
Week 11:	Tue. Mar. 26	Potential Outcomes Model & Estimation of TE
	Thu. Mar. 28	Potential Outcomes Model & Evaluation of TE
Week 12:	Tue. Apr. 2	Machine Learning
	Thu. Apr. 4	Machine Learning