

ECONOMETRICS II, ECON 372  
Department of Economics  
St. Francis Xavier University  
Winter 2023

**Instructor:** Teng Wah LEO

**Time Blocks and Location:** W7/W8 (Monday, 3:45 p.m.–5:00 p.m.; Wednesday, 2:15 p.m.–3:30 p.m.) at Mulroney Hall, MULH4022

**Office Hours:** Mondays from 12 p.m.–2 p.m. & Wednesdays from 10 a.m.–1 p.m at Mulroney Hall, Room 3073. All other times, by appointment only.

**Objective:**

The course is designed to introduce more Econometric Theory to the Introductory course in Econometrics to provide a basis for the student to utilize more advance econometric techniques. Emphasis will be placed on more in depth technical detail, such as solving for the Ordinary Least Squares solution using Matrix Algebra, which would allow the student to write dedicated computer programs in MATLAB. The rigour is also meant to provide a strong grounding to the student for analyzing problems in empirical work both regarding technical problems and that associated with inference. **Prerequisite: ECON 371.**

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**Drop-Date:**

Students may drop a course, online in Banner, on or before **March 10<sup>th</sup>, 2023**. After this date students are not permitted to drop courses without permission from their Dean. (Please see 3.1 in academic calendar for policy regarding course drops).

**Evaluation:**

There will be 4 equally weighted **take-home** tests, each of which will include both theoretical, and applied elements. Each of the take-home tests is worth 15%, for a total of 60% of your final grade. It is recommended that assignments be typed using L<sup>A</sup>T<sub>E</sub>X. There will be one midterm test on the 1<sup>st</sup> March 2023, and a final examination, each worth 20%.

**Required Text:**

- Jeffrey M Wooldridge. 2015, *Introductory Econometrics: A Modern Approach*, South-Western College, 6<sup>th</sup> edition.

**Supplementary Reading:**

- James G MacKinnon and Russell Davidson. 2003, *Econometric Theory and Methods*, Oxford University Press.
- (CB) Christopher F. Baum. 2006, *An Introduction to Modern Econometrics Using Stata*, Stata Press.
- (SB) Sean Beckett. 2013, *Introduction to Time Series Using Stata*, Stata Press.

**Course Outline:**

1. Matrix Representation of OLS and MATLAB
2. Programming in MATLAB
3. Method of Moments & Maximum Likelihood Estimation
4. Measurement Error Revisited
5. Instrumental Variable Estimation and Two Stage Least Squares
6. Limited Dependent Variable
7. Introduction to Time Series Analysis
8. More Time Series Analysis