

**Econ 835 G100- Econometrics**  
**Course Syllabus**  
**Fall 2022**

**Class Time:** Fridays 3:30 to 6:20pm (no tutorials)

**Class Location:** WMC 3611

**Instructor:** Serena Canaan

**Email:** [scanaan@sfu.ca](mailto:scanaan@sfu.ca)

**Office Hours:** Fridays 1 to 3pm

**Office Location:** WMC 2680

**Teaching Assistant:** Jeff Hsin-Yuan Hsieh

**Email:** [jeff\\_hsieh@sfu.ca](mailto:jeff_hsieh@sfu.ca)

**Office Hours:** Mondays 10:30 to 11:30am

**Office Location:** WMC 1650

**Course description:**

Econ 835 serves as an introduction to graduate level econometrics. The aim of this course is to introduce students to fundamental econometric theory. Students are expected to become familiar with ordinary least squares estimation, finite and large sample properties of OLS estimator, hypothesis testing, maximum likelihood estimation, instrumental variables and generalized method of moments.

**Course prerequisites:**

Students enrolled in this course should have taken Econ 435 (Econometric Methods) and Econ 798 (Introduction to Mathematical Economics) or their equivalents.

Students wishing to enroll in this course are expected to have basic knowledge of calculus, linear algebra and statistics. I will provide a basic review of linear algebra concepts that are going to be used in this course.

**Course Resources:**

The main web support for the course will be Canvas. Students need to make sure that they have access to Canvas' Econ 835 course page, and should constantly check their Canvas account for all information related to the course.

You can log into Canvas via the following link:

<https://canvas.sfu.ca>

More information about Canvas:

<https://www.sfu.ca/information-systems/services/canvas.html>

### **Grading:**

Your grade will be based on problem sets (15%), lecture attendance and participation (5%), midterm exam (35%) and final exam (45%).

I will assign a total of 3 or 4 problem sets during the semester. Problem sets will be posted and should be submitted on Canvas. Every student has to hand in his/her own work and group submissions are not allowed. Problem sets must be submitted on time and no late submissions are accepted.

The date of the midterm exam will be announced in class and on Canvas.

Lecture attendance is mandatory. If you miss a lecture, it is your responsibility to take class notes from another student.

### **Textbook:**

We will use selected chapters from:

*Econometrics. Princeton University Press.* Author: Bruce E. Hansen

Students are responsible for taking notes in class. For some lectures, I will also be posting additional notes on Canvas.

### **Tentative Course Schedule (Some topics may be added/removed):**

*Week 1:*

Course Introduction and the Conditional Expectation Function (CEF)

*Week 2:*

Conditional Expectation Function (CEF) and Projection

Estimation of Linear Projection Coefficient (Method of Moments and Ordinary Least Squares)

*Week 3:*

Finite Sample Properties of Least Squares Coefficient

*Week 4:*

Finite Sample Properties of Least Squares Coefficient

Large Sample Properties of Least Squares Coefficient

*Week 5:*

Large Sample Properties of Least Squares Coefficient  
Assumption of normality, Central Limit Theorem and hypothesis testing

*Week 6:*

Assumption of normality, Central Limit Theorem and hypothesis testing

*Week 7:*

Maximum Likelihood Estimation (MLE)

*Week 8:*

Maximum Likelihood Estimation (MLE)

Endogeneity

*Week 9:*

Instrumental Variables (IV) and Generalized methods of moments (GMM)

*Week 10:*

Panel data

### **Course Policy:**

1. Students are expected to come to class on time and leave the class on time. Students are expected to behave well in class by not disturbing the instructor or other students. Students are expected not to talk, not to use their mobile phones, not to let their mobile phones ring during class, etc...
2. Cheating policy: Students are expected NOT to cheat on any assignments or exams. If a student cheats according to the cheating criteria set by SFU, the name of the student will be given to the Disciplinary Committee for action.
3. The Department of Economics seeks to promote the values of Equity, Diversity, and Inclusion in relation to our undergraduate and graduate students, administrative staff, sessional instructors, and faculty members. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of ethnicity/race, culture, religion, ability status, socio-economic status, sexual orientation, gender, gender diversity, citizenship, and national origin. We commit to fostering a departmental climate that is welcoming, respectful, and inclusive as well as ensuring that departmental policies and practices are fair.

