ST. FRANCIS XAVIER UNIVERSITY

ECONOMICS

Econ 371: Econometrics I **FALL 2018**

F. SUMMERFIELD
Email: fsummerf@stfx.ca

Office Hours: Lane Hall A207
Wednesday 10:00 – 12:00
Thursday 16:00 – 17:00
Friday 9:30 – 10:30

Lectures: SCHW 290
Wednesday 15:45 – 17:00
Friday 14:15 – 15:30
(Sept 21 lecture in SCHW 491)

COURSE DESCRIPTION

The course will introduce students to the Econometrics – the statistical practices used to evaluate economic theory and quantify economic relationships. Part of this course will be econometric theory: the principles and mathematics that define the proper way to measure economic relationships from (cross-sectional) data. Concurrently, students will learn to use computer software to implement these methods using real world data. Please note the prerequisites for the course in the academic calendar. A basic background in statistics and mathematics is assumed.

COURSE MATERIALS

LECTURE NOTES

Lectures will follow the textbook chapters closely. Students are responsible for lecture content and absence from class is not grounds for relief of this responsibility.

REQUIRED TEXT

(JW) "Introductory Econometrics" (6th ed) by: Jeffrey Wooldridge.
This is a widely-used textbook and used editions should be easy to obtain. Please note that earlier editions (4th or 5th) should also be fine.

REQUIRED SOFTWARE

STATA – this software is available on all lab computers campus wide. You may choose to obtain your own copy but this is not required. Please ask for help before doing so – some of versions will not be capable enough for our course while others (more expensive) are not necessary. You may use an alternative software at your own risk. See details below.

COURSE OUTLINE* & REQUIRED READINGS (chapters listed from JW)

Part A)	**INTRODUCTION & REVIEW**		**(2.5 Weeks)**
	01:	**What is Econometrics**	**Ch1**
	02:	**Random Variables**	**Apx B.1**
	03:	**Probability Distributions**	**Apx B.2 – B.3**
	04:	**Joint Distributions**	**Apx B.4 – B.5**
		Introduction to Stata	**Notes**
Part B)	**THE SIMPLE REGRESSION MODEL**		**(3 Weeks)**
	05:	**Linear Regression Model**	**Ch2.1**
	06:	**OLS Estimation**	**Ch2.2**
	07:	**Method of Moments & OLS Properties**	**Ch2.2 – 2.3**
	08:	**Model Fit and Units of Measure**	**Ch2.3 – 2.4**
	09:	**Sampling Distributions**	**Ch2.5, Apx C.1 – C.2**
Part C)	**MULTIPLE REGRESSION**		**(1.5 Weeks)**
	10:	**Multivariate OLS**	**Ch3.1 – 3.2 & 6.3a**
	11:	**Specification - variables**	**Ch3.3 – 3.4a & 3.5**
	12:	**Specification - functional form**	**Ch2.4b & Ch 6.2a-b**
Part D)	**INFERENCE & TESTING**		**(1.5 Weeks)**
	13:	**Testing single parameters**	**Ch4.1 – 4.3**
	14:	**Testing multiple parameters**	**Ch4.4 & 4.5**
	15:	**OLS Asymptotics**	**Ch5.1- Ch5.2**
Part E)	**PRACTICAL MATTERS**		**(2 Weeks)**
	16:	**Binary independent variables**	**Ch7.1 – 7.3**
	17:	**Binary dependent variable models**	**Ch7.5 & 17.1 – 17.2**
	18:	**Testing and Robust Inference**	**Ch8.1 – 8.3**
	19:	**Weighted Least Squares**	**Ch8.4**

EVALUATION

Midterm Exam	Covering Part A and Part B **In Class: Oct. 19th**	**25%**
Problem Sets	Best 6/8 worth 7.5% each. Bonus 2% for passing grade on all 8. **Due:* (1) Sep 19th (2) Sep 26th (3) Oct 3rd (4) Oct 10th** **(5) Oct 31st (6) Nov 7th (7) Nov 14th (8) Nov 21st**	**45%**
Final Exam	Cumulative of all course material	**30%**

* The schedule is approximate and progression through the material may vary. Problem set due-dates may be adjusted as necessary. The 8 problem sets may be treated as 4, and handed in on the even numbered dates (in red) without penalty. Solutions will be posted after even numbered problem sets are submitted.

EXAMS:

Students who miss the Midterm exam due to illness or compassionate reasons will have the opportunity to sit the exam at a later date during office hours. Those wishing to take advantage of this accommodation should contact the instructor no later than one lecture after missing the original exam sitting. The re-write date must be set within 10 calendar days of the original exam. Standard StFX policies apply in the case of illness during final exams.

PROBLEM SETS:

Problem sets will include a mixture of textbook questions and applied questions that make use of the statistical software package STATA. Please note that I am happy for students to use other packages they may already be familiar with (for example R), however I can offer somewhat less help with R, and perhaps no help with other software packages such as SPSS. Therefore I recommend STATA. MS Excel will not be capable enough for everything we do in this course.

Problem sets will be distributed in class at least one week in advance of the due dates. I encourage you to support each other by working in groups to solve the problems. Ideally, attempt the problems on your own and come together to compare answers and learn from eachother. You may submit problem sets individually (recommended) or in teams of two. In the case of team work, both team members will receive the exact same mark without exception.

Students are given choice in how they complete the problem sets. There are a total of 8, roughly one per week during the term. Students are encouraged to treat these as 8 small problem sets. Spending time each week to solve problems will help in absorbing the class material. However, students may treat these as 4 larger problem sets, to be handed in on the due dates assigned to the even numbered problem (in red on the schedule). For example, problem set 1 may be combined with problem set 2 and handed in together without penalty on Sept 26th. Problem sets will be graded and answers posted after even-numbered dates. Late problem sets on even numbered due dates will not be accepted and will receive a mark of zero with no exceptions.

To accommodate sickness and other compassionate reasons why students may be unable to submit a problem set, only the best 6 of 8 assignments will count towards your mark. Students are **highly discouraged** from intentionally skipping a problem set since further accommodation is generally not possible. Furthermore, problem sets serve as the best practice for exam questions. Students who face particular difficult circumstances are encouraged to consult with me before missing more than two problem sets so that an appropriate accommodation can be made.

Please note that requests for extra work to make up for low grades, including assignments and essays, will not be possible. It is your responsibility to track your progress over the term and seek help on difficult subjects. I am approachable and very happy to help *throughout* the semester.