York University
Faculty of Liberal Arts & Professional Studies
Department of Economics

AP/ECON3210A
Use of Economic Data
S1 2021 Course Outline

Course Instructor Contact:

Instructor: David K. Lee, Ph. D.

Office and Phone: N/A

Email: dklee@yorku.ca

Course Web Site: eclass

Virtual Course Consultation Hours: Saturdays 10:00-12:00 (Zoom connection information will be available through eclass)

Calendar Course Description / Prerequisite / Co-Requisite:

Introduces the theory and practice of empirical analysis of economic models. Develops tools to estimate economic relationships involving two or more variables and to test their significance. Relies on the use of Canadian data sets and statistical software packages to show how linear regression analysis is applied. Prerequisite: AP/ECON 2500 3.00 or equivalent. Note: No credit will be retained for this course for students who have successfully completed or who are currently enrolled in AP/ECON 4210 3.00. Course credit exclusions: HH/PSYC 3030 6.00, SC/MATH 3330 3.00. Note: Acceptable course substitutes are available in the Calendar. PRIOR TO FALL 2009: Course credit exclusions: SC/BIOL 2060 3.00, AK/AS/ECON 3210 3.00, AK/AS/SC/MATH 3033 3.00, AS/SC/MATH 3330 3.00.

Lecture Time and Location

Lecture:
- Online lecture delivery format (Zoom live lectures).
- Course lectures will be delivered every **Monday and Wednesday 6:00pm -9:00pm.**
- This is an online course. The entire course, including the submission of assignments, participation/discussion and test-taking, will take place on the course's eclass.

Teaching Assistants: N/A

Organization of the Course

This course is an online lecture delivery format. Lectures will be delivered through lecture notes and audio files and/or virtual live lectures with Zoom. Office hours will be held in a virtual space with Zoom. All students must have a Zoom account.

Technical requirements for taking the course:

A computer with microphone and webcam, and a high speed and reliable internet connection, and/or a smart device with these features. These technical features are required for students in order to fully participate in the course. There are some live information sessions including Q & A that will be conducted through Zoom video conferencing, where students are expected to participate. Also, you may be required to appear on video for exams/tests proctoring purposes. If you are not comfortable with these requirements, you should not enroll in this section of the course.

Students shall note the following:
- Zoom is hosted on servers in the U.S. This includes recordings done through Zoom.
- If you have privacy concerns about your data, provide only your first name or a nickname when you join a session.
- The system is configured in a way that all participants are automatically notified when a session is being recorded. In other words, a session cannot be recorded without you knowing about it.

Here are some useful links for student computing information, resources and help:
Student Guide to Moodle
Zoom@YorkU Best Practices
Zoom@YorkU User Reference Guide
Computing for Students Website
Student Guide to eLearning at York University

To determine Internet connection and speed, there are online tests, such as Speedtest, that can be run.

Expanded Course Description

The primary goal for this course is to make students in understanding statistical methods for estimating economic relationships, testing economic theories, and evaluating and implementing government and business policy. This course examines what happens when economic data do not satisfy the assumptions of the Classical Linear Regression Model. It explains why ordinary least squares methods are not appropriate in the presence of, for example, heteroscedasticity, and how estimation techniques have to be modified to take these problems into account. Extensive use will be made of software packages.
In general, students are required to have backgrounds in probability and statistics. In addition, (although not formally required) students are assumed to have backgrounds in calculus and linear algebra.

Course Learning Objectives
This course focuses the theory and practice of econometric analysis of economic models. The basic probability and statistics will be reviewed in the beginning of the course. Linear regression analysis, both simple and multiple regressions including various functional forms of regression model such as binary dependent variable, then will be examined. The topics for the cases in which the assumptions of the classical linear regression model are relaxed such as multicollinearity, and heteroskedasticity will be examined. Throughout the course, statistical software packages will be used to show how the theory is applied.

Textbook (Required):
Wooldridge, Jeffery M., *Introductory Econometrics: A Modern Approach*, 7th Edition. Cengage Learning. 2020.

Evaluation
The grade for this course is composed of the mark received for each of the following components:

Type of Assessment	Group/Individual	Percent/Weight	Date
Assignment 1	Group/Individual	5	TBA
Assignment 2	Group/Individual	5	TBA
Midterm Exam (120 min)	Individual	30	May 31
Final Exam (180 min)	Individual	60	
TOTAL		**100%**	

The following conversions will be used in converting percentage grades to letter grades:
90-100 (A+), 80-89 (A), 75-79 (B+), 70-74 (B), 65-69 (C+), 60-64 (C), 55-59 (D+), 50-54 (D), 40-49 (E), 0-39 (F).

Problem sets will be posted in the course web site throughout the semester. Some of them may be solved in class. These problems will not be graded, however, I encourage you to work through them. It will help you understanding the course material and consequently, increase the probability that you will do well in the course. Practice may not always make perfect, but it's a good start.

Assignments:
One of the purposes for this course is to learn real econometric applications for students. Students are required to complete research projects of an econometric model application with statistical software such as SAS, SPSS, STATA, or R. SAS and SPSS are ones of the most powerful statistical languages. SAS is widely used software for virtually every field. STATA is statistical software, in general, specialized for economics and/or econometrics. STATA is useful software for students who plan to study further in economics (masters or Ph. D level). R is a relatively newly introduced but very popular and powerful programming language for data analysis.

Students will have to complete two projects during the semester using at least one of the programs listed above. The project can be a group or individual. If students form a group, the group member should be no more than 5.

If a student has access of other programming languages such as GAUSS, SHAZAM, and TSP, and wants to apply one of these, he/she should consult with the instructor.

If a student wish to use software on your personal computer for free through York, please go to https://myapps.yorku.ca/ and log in with your passport York ID. You will be asked to download an app. Please do so and follow all the instructions.

After the app is installed on your computer, scroll down the list of applications on the MyApps website and find R, SAS, or SPSS. Hovering your mouse over it and clicking "virtual" should launch those on your desktop.

R and RStudio
As explained above, students can use any software, R is the recommended program for this course. R (https://www.r-project.org) is a free, open-source programming language for statistical computing. RStudio (https://rstudio.com) is a free, open-source R programming environment. It contains a built-in code editor, many features to make working with R easier, and works the same way across different operating systems.

You will need regular, reliable access to a computer running an updated versions of the software.

Deferred Exam Policy:

There are no makeups for missed midterm exams. Anyone missing the midterm exam will automatically have their final exam reweighted to be worth 100%.

NO multiple deferrals allowed: Students can defer only one of the two exams. If students defer more than one exams, the successive deferred exams will be marked zero.

Deferring the Final Exam: The deferred final exam policy will be applied only for those who completed all of the course requirements but the final exam. Students who do not complete one of the course requirements during the semester MUST attend the regular final exam session to complete the course. If a student were to miss a course requirement during the semester and has to defer the final exam as well then the student may submit a formal petition to the Faculty.

Tentative Sequence of Topics Covered and the Lecture Schedule

Session	Topic	Reading and Activity
01 May 10 (M)	Introduction: Nature of Econometrics	Ch 1
02 May 12 (W)	Review of Basic Statistics	Appendices: A and B
03 May 17 (M)	The Simple Regression Model	Ch 2
04 May 19 (W)		
05 May 26 (W) (May 24 Victoria Day)	The Estimation of Multiple Regression Model	Ch 3

06 May 31 (M)	**Midterm Exam (Sessions 1 to 4 covered)** **(Note: Drop Deadline: June 7)**	
07 June 2 (W)	The Estimation of Multiple Regression Model	Ch 3
08 June 7 (M)	The Inference of Multiple Regression Model	Ch 4
09 June 9 (W)	Multiple Regression: Further Issues	Ch 6
10 June 14 (M)	Dummy Variables	Ch 7
11 June 16 (W)	Heteroskedasticity	Ch 8
12 June 21 (M)	Review	
Final Exam	**June 23-25**	

New Information and Changes:

The schedule is subject to change –sometimes there are unexpected absences or we bog down on an issue. Check your class notes, or contact me for up-dated work schedules.

It may be very possible to make some adjustments of lectures and/or exams schedules. Students may also have handouts for the topics discussed in the class. It is students' responsibility to be aware of any policy (or schedule change), or to collect handouts from classes. If you miss classes, contact the instructor before or immediate after, and check if there is any policy change or handout distributed.

There is no excuse for not knowing course policies or schedule changes, or for not having handouts.

Additional Information / Notes

Important Course Information for Students
All students are expected to familiarize themselves with the following information, available on the Senate Committee on Curriculum & Academic Standards webpage (see Reports, Initiatives, Documents) - http://www.yorku.ca/secretariat/senate_cte_main_pages/ccas.htm

- York's Academic Honesty Policy and Procedures/Academic Integrity Website
- Ethics Review Process for research involving human participants
- Course requirement accommodation for students with disabilities, including physical, medical, systemic, learning and psychiatric disabilities
- Student Conduct Standards
- Religious Observance Accommodation

IMPORTANT COURSE INFORMATION

The Senate Academic Standards, Curriculum and Pedagogy (ASCP) provides a [Student Information Sheet](#) that includes:

- [York's Academic Honesty Policy](#) and Procedures / [Academic Integrity Web site](#)
- [Access/Disability](#)
- [Ethics Review Process](#) for Research Involving Human Participants
- [Religious Observance Accommodation](#)
- [Student Code of Conduct](#)

Additional information:

- [Academic Accommodation for Students with Disabilities](#)
- [Alternate Exam and Test Scheduling](#)
- [Grading Scheme and Feedback Policy](#)
  The Senate Grading Scheme and Feedback Policy stipulates that (a) the grading scheme (i.e. kinds and weights of assignments, essays, exams, etc.) be announced, and be available in writing, within the first two weeks of class, and that, (b) under normal circumstances, graded feedback worth at least 15% of the final grade for Fall, Winter or Summer Term, and 30% for 'full year' courses offered in the Fall/Winter Term be received by students in all courses prior to the final withdrawal date from a course without receiving a grade.
- Important University Sessional Dates (you will find classes and exams start/end dates, reading/co-curricular week, add/drop deadlines, holidays, University closings and more. http://www.registrar.yorku.ca/importantdates/index.htm
- "20% Rule"
  No examinations or tests collectively worth more than 20% of the final grade in a course will be given during the final 14 calendar days of classes in a term. The exceptions to the rule are classes which regularly meet Friday evenings or on Saturday and/or Sunday at any time, and courses offered in the compressed summer terms.
- Final course grades may be adjusted to conform to Program or Faculty grades distribution profiles.
- Services for Mature and Part-time Students
  The Atkinson Centre for Mature and Part-time Students (ACMAPS) maintains and strengthens York University's ongoing commitment to welcome and to serve the needs of mature and part-time students. For further information and assistance visit: http://www.yorku.ca/acmaps