

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

AP/ECON3210C
Use of Economic Data
Fall 2023 Course Outline

Course Instructor Information:

Name: David K. Lee, Ph. D.

Office: VH 1129

Email: dklee@yorku.ca

Phone: 416-736-2100 Ext.

Course Consultation Hours: By appointment (In-person or zoom meeting, Zoom connection information will be available through eclass)

Course Web Site: 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

Th 4:00pm-7:00pm, DB 0010

Teaching Assistants: TBA

Organization of the Course

This course involves formal lectures presented by the course instructor. The classroom technology will be used extensively, such as PowerPoint, or MS word format presentation. There will be extensive usages of the course web site. Reading assignments, practice problems, problem solving, etc., for each lecture session, tutorial sessions or TA availability, etc., will be announced on the course web site.

Technical requirements for taking the course:

This course is, in principle, a face-to-face lecture in a classroom. However, the Covid-19 situation is still ongoing, so online lecture deliveries can resume at any time, and some student consultations are expected to take place online. The technical features, a computer with microphone and webcam, and a high speed and reliable internet connection, and/or a smart device with these features, are required for students in order to fully participate in the course. There are some live information sessions including Q & A that may be conducted through Zoom video conferencing, where students are expected to participate. Also, students 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	Format	Percent/Weight		Date
		A	B	
Assignment	Individual/ Online Turnitin Submission	10%	10%	TBA
Quizzes	Online	10%	10%	TBA
Midterm Exam I (120 minutes)	In-class	Higher mark 30%	Higher mark 20%	Oct 5
Midterm Exam 2 (120 minutes)	In-class	Lower mark 10%		Nov 16
Final Exam (180 minutes)	In-class	40%	60%	Dec 7-20
TOTAL		100%	100%	
		Bonus	Bonus	
Course Grade = Max {A, B}				

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).

Please note that I strongly believe that the best learning experiences occur when there is healthy attendance and discussions in the classroom. Therefore, I have a policy to give some bonus points based on **class attendance and participation (usually no more than 5%)** to encourage attendance and classroom discussion. Feel free to ask any questions or simply make comments on relevant topics at any time.

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.

Quizzes: Online Open-book format

I will post 3 short quizzes to eclass over the course of the semester. Each quiz is about one hour long and should be completed within the given 12 hours. The best 2 out of 3 quizzes will be counted in your grade. No makeup quizzes are available.

No Makeup Midterm

There are no makeups for missed midterm exams. Anyone missing one midterm exam will automatically have their final exam reweighted to be worth 70%.

Requesting Deferred Final Exam

Students will be required to complete a Mach form requesting a deferred exam. For complete instructions for using the Mach form, please go to our website:

<https://www.yorku.ca/laps/econ/undergraduate-programs/academic-resources/department-policies/deferred-standing/>

A student must submit the form within 5 business days from the final exam date.

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.

If a student has access to 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, but 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 version of the software.

Requesting Deferred Final Exam

Students will be required to complete a Mach form requesting a deferred exam. For complete instructions for using the Mach form, please go to our website:

<https://www.yorku.ca/laps/econ/undergraduate-programs/academic-resources/department-policies/deferred-standing/>

A student must submit the form within 5 business days from the final exam date.

Tentative Sequence of Topics Covered and the Lecture Schedule

Session	Topic	Reading and Activity
01 Sep 7	Introduction: Nature of Econometrics	Ch 1
02 Sep 14	Review of Basic Statistics	Appendices: A and B
03 Sep 21	The Simple Regression Model	Ch 2
04 Sep 28		
05 Oct 5	Midterm Exam I (Sessions 1 to 4 covered) (Note: Drop Deadline: Nov 8)	
Reading Week: Oct 7- 13		
06 Oct 19	The Estimation of Multiple Regression Model	Ch 3
07 Oct 26	The Estimation of Multiple Regression Model	Ch 3
08 Nov 2	The Inference of Multiple Regression Model	Ch 4
09 Nov 9	Multiple Regression: Further Issues	Ch 6
10 Nov 16	Midterm Exam II (Sessions 6 to 9 covered)	
11 Nov 23	Dummy Variables	Ch 7
12 Nov 30	LPM, Logit, and Probit Models	Notes
Final Exam	Dec 7-20	

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.

Health and Safety Protocols Related to the COVID-19:

As part of York's Community of Care Commitment, all members of the York community share in the responsibility of keeping others safe on campuses. In this class, as elsewhere on campus, students must comply with all University health and safety protocols, including:

- *Self-screening using the YU Screen tool prior to coming to campus for any in-person activities*
- *Not attending in-person activities at any of York University's campuses/locations where you are feeling unwell or if you answer YES to any of the screening questions.*
- *Wearing masks or face coverings that completely cover the mouth, nose and chin while on campus*
- *Avoiding eating and drinking in classrooms, research and in shared spaces, where eating is explicitly not permitted (e.g., Libraries)*
- *Engaging in good hand hygiene*
- *Following instructions in designated spaces, as they pertain to giving space to one another and/or protocols for entry to and exit from classrooms, instructional and other shared spaces (e.g., Libraries), when applicable.*

Information about COVID-19 health and safety measures can be found on the Better Together website.

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;

<http://www.yorku.ca/secretariat/policies/index-policies.html/>

- York's Academic Honesty Policy and Procedures/Academic Integrity Website
 - **Academic Honesty and Integrity:** Conduct that violates the ethical or legal standards of the University community or of one's program or specialization is subject to severe penalties. Students are responsible for understanding the nature and consequences of these offences, as contained in the Senate Policy on Academic Honesty, found on the

York University Senate WEB page:

<http://www.yorku.ca/secretariat/policies/document.php?document=69>

- Ethics Review Process for research involving human participants
 - <http://www.yorku.ca/secretariat/policies/document.php?document=94>
- Course requirement accommodation for students with disabilities, including physical, medical, systemic, learning and psychiatric disabilities
 - <http://www.yorku.ca/secretariat/policies/document.php?document=68>
- Student Conduct Standards
 - <http://www.yorku.ca/oscr/standards.html>
- Religious Observance Accommodation
 - <https://w2prod.sis.yorku.ca/Apps/WebObjects/cdm.woa/wa/regobs>