# York University Faculty of Liberal Arts & Professional Studies Department of Economics Winter 2021

#### AP/ECON3210 3.0M - Use of Economic Data

Instructor: Uros Petronijevic Email address: upetroni@yorku.ca

Virtual Office hours: Monday 1:30pm to 2:30pm on Zoom.

Scheduled class meeting time: Monday 11:30am-2:30pm Course website: http://moodle.yorku.ca/

#### Class time and location

Please note that this is a course that depends on remote teaching and learning. There will be no in-person interactions or activities on campus. The entire course, including the submission of assignments, participation/discussion and test-taking, will take place on the course's Moodle page.

# Technical requirements for taking the course

Several platforms will be used in this course (e.g., Moodle, Zoom, etc.) through which students will interact with the course materials, the course director/TA, as well as with one another. Please review this syllabus to determine how the class meets (in whole or in part), and how office hours and presentations will be conducted.

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.

Please review the technology requirements and FAQs for Moodle.

Students will need a stable internet connection to access lecture materials, lecture videos, assignments and practice problems, and exams online on the course's Moodle page. All course materials will be posted there on a weekly basis. Virtual office hours will be held online using Zoom.

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

#### **Virtual Office Hours**

I will hold virtual office hours on Zoom every Monday from 1:30pm to 2:30pm (during the last hour of our regularly scheduled weekly meeting time). This meeting will be setup as a recurring Zoom meeting every week on our course's Moodle page.

Please note that I reserve the right to extend the duration of this weekly office hour meeting by starting earlier than 1:30pm in some weeks (but still within the window of our regular meeting time from 11:30am to 2:30pm). If that decision is made in some weeks, I will communicate the details to students well in advance over a Moodle announcement and email.

# **Course Description**

This course introduces the theory and practice of empirical analysis of economic models. It develops tools to estimate economic relationships involving two or more variables and to test their significance. It relies on the use of data sets and statistical software packages to show how linear regression analysis is applied.

Prerequisites: AP/ECON2500 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.

# **Course Organization**

This course will proceed on a **weekly** basis. We will (usually) cover new topics each week. (A tentative list of topics to be covered appears below.) I will post all relevant material for the week on the course's Moodle page by Monday at 11:30am. I will also use Moodle announcements to regularly communicate with the class and provide updates when needed. Please make sure your email address on Moodle is up to date.

Each week, I will both post pre-recorded lecture videos (and the associated slides in PDF format) and hold live lecture/tutorial sessions over Zoom. Here is an outline of how we will proceed each week between 11:30am and 2:30pm on Mondays (our regularly scheduled meeting time):

- ➤ By 11:30am on Monday of each week (likely earlier): I will post a set of pre-recorded lecture slides and videos, in which I discuss the topic(s) for that week.
- **Between 11:30am and 1:15pm each Monday**: I recommend you use this time to go over the notes and watch the videos.
- ➤ Between 1:30pm and 2:30pm each Monday: I will hold a live lecture/tutorial session over Zoom. We will use this time in two main ways:
  - We will use the statistical software package, Stata, in this course. We will use the live lecture sessions to demonstrate how to use Stata to execute the analyses that are covered in the lecture notes.
  - We also use this time as a virtual office hours session, in which students should feel free to ask their questions.

To sum up, by Monday morning of each week I will post (i) my lecture slides in PDF format and (ii) lecture videos, in which I discuss the slides. You should then go over these materials. We will then use the last hour of our scheduled meeting time as virtual office hours, during which I will demonstrate how to use Stata and go over any questions you may have.

As we move through the course, I will also post four (4) problem sets that are to be submitted in groups of up to four (4) students. I will notify students when these are posted and when they are due (usually within two weeks of being posted). See more detail about the problem sets and course grade breakdown below.

# **Required Course Textbook**

Each week, the lectures will be based on chapters from the following textbook:

Wooldridge, Jeffery M., Introductory Econometrics: A Modern Approach 7th Edition. Cengage Learning.

The **e-book version** is available from the university's bookstore.

#### **Statistical Software Used in the Course**

This course involves assignments with statistical analysis. The statistical software package that this course supports is Stata (<a href="http://www.stata.com/">http://www.stata.com/</a>). The current version of Stata is 16 but any version that is 13 or above is fine.

You are strongly encouraged to use Stata for your assignments, as I will provide demonstrations of how to use Stata during virtual office hours and will often provide Stata code ("do files") for both examples we cover in lecture and to get you started on your assignments. You are also expected to know (a few, very basic) Stata commands on exams.

(You are free to use other software for assignments, such as R, Matlab, etc., but I will not provide support for questions pertaining to any software package other than Stata.)

Unfortunately, Stata is not a freely distributed software. However, you can purchase Stata at a discounted student price:

#### Purchase a six-month license of Stata

You can visit this website <a href="http://www.stata.com/order/new/edu/gradplans/student-pricing/">http://www.stata.com/order/new/edu/gradplans/student-pricing/</a> and purchase a six-month license of Stata/IC for a student price of \$48.00 (US dollars). You can then download and install the software immediately (although I believe you need to prove you are a student with a photocopy of a student ID card).

#### (Trying to) Use Stata for Free through York

You can try going to <a href="https://myapps.yorku.ca/">https://myapps.yorku.ca/</a> and logging 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 Stata 13. Hovering your mouse over it and clicking "virtual" should launch Stata on your desktop.

**Please note**: York University recently made some unfortunate changes to the Stata license on MyApps. As of fall 2020, we were only able to secure 30 licenses for our students in ECON 3210, which means

only 30 students can use Stata on MyApps on each day. I do not know the current license quota and would therefore recommend purchasing Stata directly through Stata Corp (see above). But, if you like, you can try to use the software on the MyApps platform, understanding the license uncertainty discussed here.

Please make sure you can open Stata prior to our first Zoom meeting. I will demonstrate how to use Stata during our virtual office hours.

# Course Breakdown

The final course grade will consist of four assignments, one midterm exam, and a final exam, according to the following breakdown (with one exception noted below):

Evaluation	Date	Weight of Final Grade
Assignment 1	To be announced on course website	5%
Assignment 2	To be announced on course website	5%
Assignment 3	To be announced on course website	5%
Assignment 4	To be announced on course website	5%
Midterm Exam	Monday February 22, 2021. 11:30am to 1pm.	30%
Final Exam	To be scheduled by the University	50%

The grading scheme in the table above is the baseline grading scheme. If, however, a student scores higher on the final exam than on the midterm, I will shift 50% of the weight of the midterm toward the final exam. Therefore, for students who score higher on the final exam than on the midterm exam, their grade will be determined as follows:

Evaluation	Date	Weight of Final Grade
Assignment 1	To be announced on course website	5%
Assignment 2	To be announced on course website	5%
Assignment 3	To be announced on course website	5%
Assignment 4	To be announced on course website	5%
Midterm Exam	Monday February 22, 2021. 11:30am to 1pm.	15%
Final Exam	To be scheduled by the University	65%

#### Midterm and Final Exam

A few important points about the midterm and final exam:

- ➤ Please note the date and time of the midterm exam: The midterm exam will be held online (and accessed through the course's Moodle page) on Monday February 22, 2021, from 11:30am to 1pm EST.
- > The final exam will also be held online during the university's official exam period. It will be scheduled by the university.
- The midterm exam will cover approximately the first half of the course and the final exam will cover the entire course, although with more emphasis on the second half of the course.

Exams must be taken by all students at the scheduled time. There is NO make-up exam for a missed

midterm exam. If a student misses the midterm exam, the weight of the midterm exam will be transferred to final exam only if the student missed the midterm for a legitimate reason (e.g., illness or injury, death in the family) and can provide detailed documentation of this reason as required by the economics department. If a student misses the midterm and fails to meet these requirements, they will receive a grade of zero on the midterm. When the midterm exam is missed with a valid reason and the associated documentation is provided, the weight of the final exam will be 80%. There will be no deferred standing agreements. This means that students missing the final exam must petition following the corresponding administrative procedures as established by the faculty.

#### Homework Assignments

The homework assignments will include a combination of data work using statistical software packages and theoretical work. Students are strongly encouraged to attempt all the homework questions. You may complete the assignments in groups of up to four (4) students. Assignments will be posted on the course website and students will submit their answers there as well.

Not only do the assignments count toward the course grade, but learning statistics requires working through difficult ideas and getting your hands dirty with data analyses. There is no way around this. Please complete all assignments to the best of your ability and ask a question when something is unclear.

No assignments will be accepted after the due date, unless proof of the legitimate reason that caused delay is provided. If a student does not provide detailed documentation of the reason, a grade of zero will be assigned to the late assignment.

#### Regrade Policy

For both assignments and the midterm exam, students who wish to request a regrade must do so within one week from the day the assignment or the midterm is returned to the class, regardless of when the student receives his or her assignment or midterm. If a student finds a problem with the grading of a problem set or the midterm exam, she/he should inform the course instructor immediately. When requesting a regrade, the student should submit a clear, concise note, explaining which question she/he would like regraded and why, making clear reference to how her/his answer compares to the correct solution.

If an assignment or the midterm is submitted for a regrade, the entire assignment or midterm will be regraded, not just the question(s) that is (are) of interest. This means the overall grade on the evaluation can go up, down, or stay the same.

#### Grading

The grading scheme for the course conforms to the 9-point grading system used in undergraduate programs at York (e.g., A+=9, A=8, B+=7, C+=5, etc.). Assignments and tests will bear either a letter grade designation or a corresponding number grade (e.g. A+=90 to 100, A=80 to 90, B+=75 to 79, etc.).

# **Topics to be Covered:**

The following is a preliminary list of topics and planned schedule for coverage. Please note that this is subject to change.

Week	Topic(s) to be Covered		
Week 1: Monday January 11, 2021	• Introduction (Chapter 1)		
	Review of Basic Statistical Concepts (Textbook)		
	Appendices)		
Week 2: Monday January 18, 2021	Review of Basic Statistical Concepts continued.		
	• Simple Regression Model Part 1 (Chapter 2)		
Week 3: Monday January 25, 2021	• Simple Regression Model Part 2 (Chapter 2)		
W. 1.4.14 1. E.1. 1.2021	Maria Davida		
Week 4: Monday February 1, 2021	Multiple Regression Analysis: Estimation Part 1		
	(Chapter 3)		
Week 5: Monday February 8, 2021	Multiple Regression Analysis: Estimation Part 2		
J J J	(Chapter 3)		
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Week 6: Monday February 15, 2021	Reading Week		
Week 7: Monday February 22, 2021	Midterm: 11:30am to 1pm.		
W 1 0 M 1 M 1 1 2021	Maria Davida Davida		
Week 8: Monday March 1, 2021	Multiple Regression Analysis: Inference Part 1		
	(Chapter 4)		
Week 9: Monday March 8, 2021	Multiple Regression Analysis: Inference Part 2		
Week y. Westady Waren 6, 2021	(Chapter 4)		
	(chapter t)		
Week 10: Monday March 15, 2021	Multiple Regression Analysis: Further Issues		
	(Chapter 6)		
Week 11: Monday March 22, 2021	Multiple Regression Analysis: Dummy		
	Variables (Chapter 7)		
Week 12: Monday March 29, 2021	Heteroskedasticity (Chapter 8)		
W. 1.10.16 1 1 1 1 7 2001			
Week 13: Monday April 5, 2021	• Review		

# **Important Course Information for Students**

All students are expected to familiarize themselves with the following information, available on the Senate Committee on Academic Standards, Curriculum & Pedagogy webpage (see Reports, Initiatives, Documents): http://www.yorku.ca/secretariat/policies/index-policies.html/

- Senate Policy on Academic Honesty and the 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

Please also take note of the following important dates:

Course ADD/Drop Deadlines	Fall Term 2020 (F)	Winter Term 2021(W)
Last date to add a course <b>without permission</b> of instructor (also see Financial Deadlines)	Sept. 22	Jan. 25
Last date to add a course <b>with permission</b> of instructor (also see Financial Deadlines)	Oct. 6	Feb. 8
Last date to drop a course without receiving a grade (also see Financial Deadlines)	Nov. 6	March12
Course Withdrawal Period (withdraw from a course and receive a grade of "W" on transcript – see note below)	Nov. 7 - Dec. 8	March 13 - Apr. 12

<sup>\*\*</sup>Policy and Guidelines on Withdrawn from Course:

http://secretariat-policies.info.yorku.ca/policies/withdrawn-from-course-w-policy-and-guidelines/