McGILL UNIVERSITY
DEPARTMENT OF ECONOMICS

ECON 337
INTRODUCTORY ECONOMETRICS I[1]
FALL 2020

Instructor: **Moshe Lander**
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Phone: **514-398-5167**
Office Location: **LEA 321A**
Office Hours: **F 09:00 – 14:00**
Lecture Hours: **TR 13:05 – 14:25**
Lecture Location: **MDHAR G-10**
Teaching Assistant: **Mr Yongxu Yao (yongxu.yao@mail.mcgill.ca)**

Course Overview:
The practical application of quantitative methods in statistical investigations.

Course Prerequisites:
- A grade of 65 percent or better in ECON 227 or ECON 257 or an equivalent qualification in statistics.
- Familiarity with matrix algebra is highly recommended.

Number of Credits:
3 credits

Course Objectives:
This course is an introduction to multiple regression techniques and hypothesis testing with cross-sectional and time series data. The focus of the course is on the linear regression model and the method of least squares. The objective is to help students develop an understanding and ability to apply the econometric methods to various economic policy and decision-making problems. The course is designed to provide hands-on experience with observational data and computer software necessary to carry out an independent empirical project in economics.

Required Textbook:
Wooldridge, J. *Introductory Econometrics: A Modern Approach, 7th Edition.* Cengage Learning, 2020.
- A variety of purchase options are available here: www.cengage.ca/shop/ProductDisplay?langId=-1&storeId=10651&catalogId=10052&productId=1184558

Recommended Textbooks:
- Ryan, D. *Introductory Econometrics Lab Manual*. 2003.
- Stock, J. and M. Watson. *Introduction to Econometrics, 4rd Edition.* Pearson, 2019.

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[1] In the event of extraordinary circumstances beyond the University's and/or instructor's control, the content and/or evaluation scheme in this course is subject to change. Timely announcements will be made by email and/or on *myCourses*.

Correspondence:
All email correspondence in this class is through McGill email addresses *only*. Any email coming from any other address is treated as spam and is neither read nor answered. If you have not activated your McGill email already, please follow the instructions at www.mcgill.ca/it/get-started-it/students.

Course Assessment:

COMPONENT	WEIGHT	CONTENT	DATE
Assignment 1	10 percent	Appendices A – D	September 27
Assignment 2	10 percent	Chapters 2 – 6	October 25
Midterm	20 percent	Appendices A – D, Chapters 2 – 6	November 1
Assignment 3	10 percent	Appendix E, Chapters 7 – 9	November 22
Assignment 4	10 percent	Chapters 10 – 12	December 6
Final	40 percent	Appendices A – E, Chapters 2 – 12	TBD

Grade Criterion:

Letter	Points	Percent	Letter	Points	Percent	Letter	Points	Percent
A	4.0	85 – 100	B	3.0	70 – 74	C	2.0	55 – 59
A-	3.7	80 – 84	B-	2.7	65 – 69	D	1.0	50 – 54
B+	3.3	75 – 79	C+	2.3	60 – 64	F	0.0	00 – 49

- The official grade in this course is the letter grade. Where appropriate, a class average appears on transcripts expressed as the letter grade most representative of the class performance.
- Consult your department for the minimum grade necessary to fulfill your programme requirements.
- The grade distribution will be approximately normal, centred around 70 – 75 percent.
- At the end of the course, if the distribution differs significantly, the instructor may exercise discretion and adjust the grade thresholds. This will not serve as grounds for grade appeals.

Instructional Method:
I have been told that my lecture style is fast-paced and intense but engaging and humorous. Although students often find that this style makes the concepts easier to understand, they are often disappointed when they fail to perform to the level to which they are accustomed on my exams. My exams tend to reward those that are sufficiently knowledgeable of the underlying concepts and have developed an intuitive approach to the material. **Memorisation is almost never rewarded**.

To give you the best chance for success in my course, I strongly encourage you stay on schedule as if you were in class, approach the material with a positive attitude, read the relevant materials before (and after) watching the videos, do the assigned homework before advancing to the next chapter, work in a comfortable environment and identify problems and seek help as soon as they occur.

Lectures:
- The international nature of the student body makes it nearly impossible to find a twice-weekly 90-minute timeframe in which all students can gather online to attend a live lecture.
- For that reason, lectures are pre-recorded and posted on *myCourses* according to a traditional in-class semester schedule (see *Tentative Lecture Schedule and Assigned Readings* on page 5).
- Lectures last 2 – 3 hours and, with the e-text, contain all the information needed to complete the course.
- Once posted, each lecture is always available (as long as *myCourses* is working) except during exams.

Office Hours:
- Office hours are not recorded, optional and take place online F 09:00 – 14:00 Eastern.
- As with traditional on-campus office hours, you are received on a first-come, first-served basis and not by appointment. You sit in a virtual waiting room until I am ready to receive you.
- If you use office hours, you are expected to "arrive" prepared (ie, with your questions ready) and to be efficient so that the maximum number of students can make use of the available time.
- If you are unable to attend office hours because of scheduling conflicts, you can email your questions with attached audio, video and/or pictures. The more precise the information you provide, the faster and more precise I can respond.

Assignments:
- There are four assignments, each worth ten percent, consisting of problem questions that involve algebra, equations, interpretation and proofs that are often identical to end-of-chapter problems.
- Assignments are posted on *myCourses* approximately 1 – 2 weeks before the deadline and are due Sundays at 23:59 Eastern.
- You are to download them from *myCourses*, print them and answer the questions clearly and concisely by hand IN THE SPACES PROVIDED. Typewritten answers, additional sheets, scrap papers or any other materials submitted will NOT be considered.
- Before the relevant deadlines, you are to scan and upload the assignments in PDF format to *myCourses* with the pages in order and your name and student number printed and clearly visible in the top left corner of every page.
- Failure to follow the formatting and/or procedural instructions may result in a grade of zero.
- Late assignments receive an automatic grade of zero with no weight transfer to other assignments/exams. The best way to avoid such a situation is to leave enough time before the deadline to upload the assignments and allow for technical issues.
- While solution sets are likely available online or from previous students, if you acquire, distribute and/or utilise this material, intentionally or unintentionally, you are in violation of McGill University's *Code of Student Conduct and Disciplinary Procedures* and will receive a grade of zero for the assignment and will face academic misconduct proceedings. If you are aware of somebody else violating this policy, you are in violation of this policy. If you are unsure if what you are doing is acceptable, ask first.

Exams:

- There is one midterm written outside of class time (Sunday, November 1) and a cumulative final written during the final exam period. Both exams are closed book, take-home exams available through *myCourses*. (See *Course Assessment* on page 2 and *Tentative Lecture Schedule and Assigned Readings* on page 5 for more details about the contents and weights.)
- You are responsible for knowing the date and time of the final exam.
- Exam questions involve algebra, equations, definitions, interpretations, proofs and multi-part questions where the answer to one question may lead to another.
- Although each exam should be completed in three hours, you will have a four-hour window, at a time of your choosing within the designated 24-hour period, to complete the "exam process".
- The "exam process" consists of you downloading a file, containing a set of instructions and a declaration to behave in accordance with McGill University's *Code of Student Conduct and Disciplinary Procedures*, that you are to sign and then upload.
- After that, your four-hour window begins to download the exam, print it and answer the questions clearly and concisely by hand IN THE SPACES PROVIDED. Typewritten answers, additional sheets, scrap papers or any other materials submitted will NOT be considered.
- Before the window closes, you are to scan and upload the exam in PDF format with the pages in order, your name and student number printed and clearly visible in the top left corner of every page.
- Failure to follow the formatting and/or procedural instructions may result in a grade of zero.
- Late exams receive an automatic grade of zero with no weight transfer to other assignments/exams. The best way to avoid such a situation is to leave enough time before the deadline to upload the exams and allow for technical issues.
- While solution sets are likely available online or from previous students, if you acquire, distribute and/or utilise this material, intentionally or unintentionally, you are in violation of McGill University's *Code of Student Conduct and Disciplinary Procedures* and will receive a grade of zero for the exam and will face academic misconduct proceedings. If you are aware of somebody else violating this policy, you are in violation of this policy. If you are unsure if what you are doing is acceptable, ask first.
- If you miss the midterm for any reason (eg, illness, technical, religious, work obligation, exam scheduling conflict, etc.), the weight is shifted automatically to the final. There is NO MAKEUP, ALTERNATE OR DEFERRED MIDTERM under any circumstances, nor may it be written early.
- If you miss, or cannot write, the final, you must request a deferred exam according to the process described here (www.mcgill.ca/exams/dates/supdefer). Final exam accommodations are almost never approved for reasons relating to personal vacation/travel or family events.
- You may use a non-programmable calculator and scrap paper to assist you, but you many NOT use any other additional materials, including but not limited to the textbook, notes, slides, online or offline materials, external websites, formula sheets, previous exams, dictionaries, your phone/tablet or anything else that would normally fall within the GENERALLY-ACCEPTED definition of cheating. Furthermore, you are to do this exam ON YOUR OWN, without discussing the materials with anybody inside or outside of the class. If you fail to follow any of these instructions, you will receive a grade of zero for the exam and will face academic misconduct proceedings in accordance with McGill's *Code of Student Conduct and Disciplinary Procedures*. If you are unsure if what you are doing is acceptable, ask first.
- It is not possible to review your midterm after you complete it. Do not worry though; the final consists of entirely different questions than those that appear on the midterm, so there is nothing to be learned from the exams after you complete them.

Tentative Lecture Schedule and Assigned Readings:

Date	Event	Coverage
September 3	Introduction	Chapter 1
September 8	Basic Mathematical Tools	Appendix A
September 10	Fundamentals of Probability	Appendix B
September 15	Fundamentals of Mathematical Statistics	Appendix C
September 17	Summary of Matrix Algebra	Appendix D
September 22	The Simple Regression Model	Chapter 2
September 24	The Simple Regression Model	Chapter 2
September 27	ASSIGNMENT 1 DUE	Appendices A – D
September 29	Multiple Regression Analysis: Estimation	Chapter 3
October 1	Multiple Regression Analysis: Estimation	Chapter 3
October 6	Multiple Regression Analysis: Inference	Chapter 4
October 8	Multiple Regression Analysis: Inference	Chapter 4
October 13	Multiple Regression Analysis: OLS Asymptotics	Chapter 5
October 15	Multiple Regression Analysis: Further Issues	Chapter 6
October 20	Multiple Regression Analysis: Qualitative Information	Chapter 7
October 22	Multiple Regression Analysis: Qualitative Information	Chapter 7
October 25	ASSIGNMENT 2 DUE	Chapters 2 – 6
October 27	The Linear Regression Model in Matrix Form	Appendix E
October 29	Heteroscedasticity	Chapter 8
November 1	MIDTERM (00:00 – 23:59)	Appendices A – D, Chapters 2 – 6
November 3	Heteroscedasticity	Chapter 8
November 5	More on Specification and Data Issues	Chapter 9
November 10	More on Specification and Data Issues	Chapter 9
November 12	Basic Regression Analysis with Time Series Data	Chapter 10
November 17	Basic Regression Analysis with Time Series Data	Chapter 10
November 22	ASSIGNMENT 3 DUE	Appendix E, Chapters 7 – 9
November 19	Further Issues in Using OLS with Time Series Data	Chapter 11
November 24	Further Issues in Using OLS with Time Series Data	Chapter 11
November 26	Serial Correlation and Heteroscedasticity in Time Series	Chapter 12
December 1	Serial Correlation and Heteroscedasticity in Time Series	Chapter 12
December 6	ASSIGNMENT 4 DUE	Chapters 10 – 12
TBD	FINAL EXAM	Appendices A – E, Chapters 2 – 12

Language of Submission:
In accordance with McGill University's *Charter of Students' Rights*, students in this course have the right to submit in English or in French any written work that is to be graded.

Academic Integrity:
McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the *Code of Student Conduct and Disciplinary Procedures*.

Text-Matching Software:
As per McGill University's *Policy on Text-Matching Software*, this course uses such software. Item 2 of the Policy states, in part, that, "*Students shall also be informed in writing before the end of the drop/add period that they are free, without penalty of grade, to choose an alternative way of attesting to the authenticity of their work. Instructors shall provide students with at least two possible alternatives that are not unduly onerous and that are appropriate for the type of written work.*"

If you prefer an alternative way of attesting to your work's authenticity be used, you may choose to…
- Submit copies of multiple drafts;
- Submit photocopies of sources;
- Take an oral examination directed at issues of originality; or,
- Respond in writing to a quiz or questions directed at issues of originality.

Student Assessment Policy:
The *University Student Assessment Policy* exists to ensure fair and equitable academic assessment for all students and to protect students from excessive workloads. Students are encouraged to review this Policy, which addresses multiple aspects and methods of student assessment (eg, the timing of evaluation due dates and weighting of final examinations).

Copyrighted Materials:
Instructor-generated course materials (eg, handouts, notes, summaries, exam questions, etc.) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor. Note that infringements of copyright can be subject to follow up by the University under the *Code of Student Conduct and Disciplinary Procedures*.

Inclusive Learning:
While I endeavor to provide an inclusive learning environment, if you experience barriers to learning in this course, do not hesitate to discuss them with me and/or with the *Office for Students with Disabilities*.

End-of-Course Evaluations:
End-of-Course Evaluations are one of the ways that McGill works towards maintaining and improving the quality of courses and the student's learning experience. You will be notified by e-mail when the evaluations are available.

Students' Rights:
Additional policies governing academic issues that affect students can be found in the *Handbook on Student Rights and Responsibilities*.