DALHOUSIE UNIVERSITY

Faculty of Science Course Syllabus
Department of Economics
ECON 3338 Section 01
Introductory Econometrics I
Fall 2020

Instructor: Prof. Yulia Kotlyarova *yulia.kotlyarova@dal.ca*

Lectures: Monday and Wednesday 1:05 – 2:25 pm Atlantic Time (synchronous sessions)

Office hours: Friday 9 – 10:30 am (or by appointment)

Tutorials: weekly asynchronous sessions

Teaching assistants: Weiyi Li and Sarah Zhang

TA office hours: TBD

Course Description

The theory of the quantitative methods commonly used by economists is discussed in the context of the classical linear model. The topics also include some estimation problems caused by violations of the assumptions of the classical model, including heteroskedasticity and autocorrelation.

Prerequisites

MATH 1000.03 (or equivalent) and ECON 2280.03/MATH 2080.03/STAT 2080.03, with minimum grades of C

Objectives of the course

The students will acquire knowledge of various econometric techniques designed to ensure reliable quantitative analysis of economic questions and data. They will gain experience working with real-world data, building econometric models, and performing hypothesis testing.

Learning outcomes

The objectives of the course are that the participants can:

- formulate the simple and multiple linear regression models and their underlying assumptions
- apply the procedure of Ordinary Least Squares
- estimate and interpret the parameters of multiple linear regressions
- describe the statistical properties of the estimated parameters
- test linear restrictions imposed on the parameters of multiple regression models

- use the estimated regression model to compute forecasts and to interpret the precision of these forecasts
- understand the consequences of multicollinearity, omitted variables, functional form misspecification, heteroskedasticity and autocorrelation in multiple regression models
- evaluate the adequacy of the estimated regression models by performing specification tests

Format

Synchronous lectures and office hours: Collaborate Ultra via Brightspace.
Recorded lectures and tutorials will be available on Brightspace.

Online Access

When connecting to online resources, you are responsible for observing any applicable laws of the country you are connecting from. Please establish whether you have access to all course material as soon as the term begins and before the ADD/DROP date (September 18th, 2020). If you do not have access to certain material, inform the instructor as soon as possible. Alternative access methods are not guaranteed.

Textbooks and software

Required textbook:

Jeffrey M. Wooldridge, "Introductory Econometrics: A Modern Approach", 7th ed., Cengage, 2020

https://bookstore.dal.ca/CourseSearch/?course%5b%5d=SUB,FALL20,ECON,ECON3338,01&

Additional reading materials will be posted on Brightspace.

Other useful textbooks:

"Principles of econometrics" by R. Hill, W. Griffiths, G. Lim, 3rd edition.

"Introduction to econometrics" by J. Stock and M. Watson, updated 3rd edition.

"Using Stata for Principles of econometrics", L. Adkins and R. Hill, 4th edition

Statistical package: STATA. Stata/SE 16 can be downloaded at https://software.library.dal.ca/

Course Assessment

Component	Weight (% of final grade)	Date
Midterm	20% (2 hrs)	9 - 11 am, 28 October, 2020 (tentative)
Final exam	35% (3 hrs, synchronous)	Scheduled exam period
Term project	25%	15 December, 2020
5 assignments	20% (best 4 out of 5)	to be determined

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Course Policies

If a student misses the midterm for a valid reason, the student must notify the instructor by email prior to the date and time of the exam. In this case, the final exam will count for 55% of the final grade.

If a student cannot submit an assignment or the term project on time for a valid reason, the student must contact the instructor prior to the assignment/project deadline to discuss alternative arrangements.

If a student misses the final exam for a valid reason, the student must notify the instructor immediately. The student will have an opportunity to write a make-up final exam.

For the term project, a plagiarism detection software may be used.

The students are not allowed to collaborate on the assignments and exams.

The full text of Dalhousie's *Policy on Intellectual Honesty* and *Faculty Discipline Procedures* is available here:

http://www.dal.ca/dept/university_secretariat/academic-integrity/academic-policies.html

Grading scheme:

A+	A	A-	B+	B	B-	C+	C	C-	D	F
90-100	85-89	80-84	77-79	73-76	70-72	65-69	60-64	55-59	50-54	<50

Course Content

1. Review of basic probability and statistics (Appendices A, B, C)
2. Econometrics and economic data (Ch. 1)
3. Simple regression model (Ch. 2)
4. Multiple regression analysis: estimation (Ch. 3)
5. Hypothesis testing in simple and multiple regressions (Ch. 4)
6. Asymptotic properties of Ordinary Least Squares (Ch. 5)
7. Functional forms and dummy variables (Ch. 6, 7)
8. Heteroskedasticity (Ch. 8)
9. Misspecification testing (Ch. 9)

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University Policies and Statements

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate

Missed or Late Academic Requirements due to Student Absence

As per Senate decision instructors may not require medical notes of students who must miss an academic requirement**, including the final exam**, for courses offered during fall or winter 2020-21 (until April 30, 2021).
Information on regular policy, including the use of the Student Declaration of Absence can be found here: **https://www.dal.ca/dept/university_secretariat/policies/academic/missed-or-late-academic-requirements-due-to-student-absence.html.**

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.

Information: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).

Information: https://www.dal.ca/campus_life/academic-support/accessibility.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

Code: https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness

Statement: http://www.dal.ca/cultureofrespect.html

Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit or e-mail the Indigenous Student Centre (1321 Edward St) (elders@dal.ca).

Information: https://www.dal.ca/campus_life/communities/indigenous.html

Important Dates in the Academic Year (including add/drop dates)

https://www.dal.ca/academics/important_dates.html

University Grading Practices

https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

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Student Resources and Support

Advising

General Advising https://www.dal.ca/campus_life/academic-support/advising.html

Science Program Advisors: https://www.dal.ca/faculty/science/current-students/academic-advising.html

Indigenous Student Centre: https://www.dal.ca/campus_life/communities/indigenous.html

Black Students Advising Centre: https://www.dal.ca/campus_life/communities/black-student-advising.html

International Centre: https://www.dal.ca/campus_life/international-centre/current-students.html

Academic supports

Library: https://libraries.dal.ca/

Writing Centre: https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html

Studying for Success: https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

Copyright Office: https://libraries.dal.ca/services/copyright-office.html

Fair Dealing Guidelines https://libraries.dal.ca/services/copyright-office/fair-dealing.html

Other supports and services

Student Health & Wellness Centre: https://www.dal.ca/campus_life/health-and-wellness/services-support/student-health-and-wellness.html

Student Advocacy: https://dsu.ca/dsas

Ombudsperson: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html

Safety

Biosafety: https://www.dal.ca/dept/safety/programs-services/biosafety.html

Chemical Safety: https://www.dal.ca/dept/safety/programs-services/chemical-safety.html

Radiation Safety: https://www.dal.ca/dept/safety/programs-services/radiation-safety.html

Scent-Free Program: https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html