Intro Econometrics I Syllabus
Department of Economics
ECON 3338.01 Fall 2023

Dalhousie University acknowledges that we are in Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq People and pays respect to the Indigenous knowledges held by the Mi'kmaq People, and to the wisdom of their Elders past and present. The Mi'kmaq People signed Peace and Friendship Treaties with the Crown, and section 35 of the Constitution Act, 1982 recognizes and affirms Aboriginal and Treaty rights. We are all Treaty people.

Dalhousie University also acknowledges the histories, contributions, and legacies of African Nova Scotians, who have been here for over 400 years.

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Office hours: Wednesday 4 - 5:30 pm or by appointment

Teaching assistants: Yongpei Cai *yongpei.cai@dal.ca*

Online office hours: Thursday 6 - 7:30 pm in Collaborate

Gabriel Samuel (tutorials)

Lectures (in-person) Monday and Wednesday 2:35 – 3:55 pm Mona Campbell 1108

Tutorials (in-person) Monday 4:05 – 5:25 pm Dunn 301A

Course delivery: In-person lectures and tutorials will not be recorded.

Pre-recorded tutorials will be posted weekly on Brightspace.

Course Description

The theory of some quantitative methods commonly used by economists is discussed in the context of the classical linear model. Estimation problems caused by violations of the assumptions of the classical model are studied, including heteroscedasticity and autocorrelation.

Course Prerequisites

MATH 1000.03 (or equivalent) and STAT 2060.03/MATH 2060.03, with minimum grades of C.

Course Materials

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

https://bookstore.dal.ca/CourseSearch/?course[]=SUB,FALL23,ECON,ECON3338,01-02&

MindTap access is optional.

Additional reading materials will be posted on Brightspace or distributed in class.

Other useful textbooks:

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

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

"Introduction to econometrics" by J. Stock and M. Watson (on reserve in Killam library).

Statistical package: STATA. Stata/SE 18 can be downloaded at https://software.library.dal.ca/

Assessment

Component	Weight (% of final grade)	Date
Midterm	20% (in class, in person)	25 October, 2023 (tentative)
Final exam	35% (3 hrs, in person)	Scheduled exam period
4 assignments	20%	to be determined
Project proposal	5%	1 November, 2023
Course project	20%	12 December, 2023

Course project

Students will be working on individual course projects, in which they will use the ordinary least squares to analyze cross-sectional economic data. The students will be responsible for determining a research question, formulating a regression model, finding relevant data and papers, performing the regression analysis and discussing the results.

A project proposal must be submitted by November 1st, the first draft is due on December 4th for a format check (not graded), and the final version should be submitted on December 12th. Detailed instructions will be provided in class.

Conversion of numerical grades to final letter grades follows the
Dalhousie Grade Scale

A+ (90-100)	B+ (77-79)	C+ (65-69)	D (50-54)
A (85-89)	B (73-76)	C (60-64)	F (0-49)
A- (80-84)	B- (70-72)	C- (55-59)	

Course Policies

Please check regularly the course Brightspace page for course announcements and assignments.

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 on time an assignment/project proposal/final report, 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 and provide the appropriate documentation. 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, course projects, 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

Learning Objectives

Students will acquire the 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.

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.

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)

   Midterm exam (Appendices A - C, Chapters 1 and 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)

   Final exam (Appendices A - C, Chapters 1 - 9)

University Policies and Statements

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 at 1321 Edward St or elders@dal.ca. Additional information regarding the Indigenous Student Centre can be found at: https://www.dal.ca/campus_life/communities/indigenous.html

Internationalization

At Dalhousie, 'thinking and acting globally' enhances the quality and impact of education, supporting learning that is "interdisciplinary, cross-cultural, global in reach, and orientated toward solving problems that extend across national borders." Additional internationalization information can be found at: https://www.dal.ca/about-dal/internationalization.html

Academic Integrity

At Dalhousie University, we are guided in all our work by the values of academic integrity: honesty, trust, fairness, responsibility, and respect. As a student, you are required to demonstrate these values in all 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. Additional academic integrity information can be found at: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Student Accessibility Centre is Dalhousie's centre of expertise for matters related to student accessibility and accommodation. If there are aspects of the design, instruction, and/or experiences within this course (online or in-person) that result in barriers to your inclusion, please contact the Student Accessibility Centre (https://www.dal.ca/campus_life/academic-support/accessibility.html) for all courses offered by Dalhousie with the exception of Truro. For courses offered by the Faculty of Agriculture, please contact the Student Success Centre in Truro (https://www.dal.ca/about-dal/agricultural-campus/student-success-centre.html)

Conduct in the Classroom – Culture of Respect

Substantial and constructive dialogue on challenging issues is an important part of academic inquiry and exchange. It requires willingness to listen and tolerance of opposing points of view. Consideration of individual differences and alternative viewpoints is required of all class members, towards each other, towards instructors, and towards guest speakers. While expressions of differing perspectives are welcome and encouraged, the words and language used should remain within acceptable bounds of civility and respect.

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 (Strategic Priority 5.2). Additional diversity and inclusion information can be found at: http://www.dal.ca/cultureofrespect.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. The full Code of Student Conduct can be found at:
https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Fair Dealing Policy

The Dalhousie University Fair Dealing Policy provides guidance for the limited use of copyright protected material without the risk of infringement and without having to seek the permission of copyright owners. It is intended to provide a balance between the rights of creators and the rights of users at Dalhousie. Additional information regarding the Fair Dealing Policy can be found at: https://www.dal.ca/dept/university_secretariat/policies/academic/fair-dealing-policy-.html

Originality Checking Software

The course instructor may use Dalhousie's approved originality checking software and Google to check the originality of any work submitted for credit, in accordance with the Student Submission of Assignments and Use of Originality Checking Software Policy. Students are free, without penalty of grade, to choose an alternative method of attesting to the authenticity of their work and must inform the instructor no later than the last day to add/drop classes of their intent to choose an alternate method. Additional information regarding Originality Checking Software can be found at: https://www.dal.ca/dept/university_secretariat/policies/academic/student-submission-of-assignments-and-use-of-originality-checking-software-policy-.html

Student Use of Course Materials

Course materials are designed for use as part of this course at Dalhousie University and are the property of the instructor unless otherwise stated. Third party copyrighted materials (such as books, journal articles, music, videos, etc.) have either been licensed for use in this course or fall under an exception or limitation in Canadian Copyright law. Copying this course material for distribution (e.g. uploading to a commercial third-party website) may lead to a violation of Copyright law.