Instructor: Emmanuelle Piérard
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Phone: 519-888-4567 ext. 37712
Office Hours: Monday 11:30am-12:30pm and Wednesday 1:30pm-3:30pm
Email: emma.pierard@uwaterloo.ca. When emailing the instructor, the subject line of the email must contain ECON 323. You can only email the instructor regarding personal issues, e.g. why you will not be able to attend a midterm. **I will not answer any question about the material or the structure of midterms, the final, etc. through email.** Please use this address rather than emailing me through D2L.

Course Description

This course covers the most important methods used in applied economics research beyond the least-squares estimator. It starts by exploring solutions to the endogeneity problem in detail, emphasizing proper ways of conducting causal inference. It extends the methods covered in ECON 322 to the case in which the data are observed over time. Students will learn how to estimate and interpret dynamic models and how these models affect our ability to do inference. The course also covers methods for data in which the response variable is either qualitative, with or without multiple levels, or count data. For that purpose, it introduces students to maximum likelihood estimation, and the estimation of models by probit, logit, and Poisson regressions. Assignments have the same data-based focus as in ECON 322.

Prerequisites: ECON 321, ECON 322 or equivalent.

Required Text

- Wooldridge, Jeffrey M., Introductory Econometrics – A modern approach, 6th edition, 2015, 912 p.

OR

- Stock, J. H. and M. W. Watson, Introduction to Econometrics, 3rd edition, 2015, 790 p.

Older editions of both texts are on reserve at DP. I do not expect you to buy yet another textbook for this course. Use the text that you already own but if you do not own one, please get access to one. A correspondence table for the topics covered in this class is available on D2L. For Wooldridge, any edition (3rd and up) is fine.

Readings Available on LEARN
- I will post class announcements, notes, assignments and other relevant material on the Desire2Learn network (learn.uwaterloo.ca).

Course Requirements and Assessment

Assessment	Date of Evaluation	Weighting
Assignments	Various	20%
Midterm 1	Friday January 20th	10 or 15%
Midterm 2	Friday February 17th	10 or 15%
Midterm 3	Friday March 17th	10 or 15%
Final	During the final exam period in April	40%
Total		100%

The 2 best midterm individually will be worth 15%; the one on which you will have a lower mark will be worth 10%. In order to pass the course, you must obtain a mark of at least 40% on the final.

Note that there will be a bonus assignment worth 2 marks for this class. More details will be provided later in the term.

Course Outline

Review of regressions using Cross-sectional Data

Instrumental Variable Estimation and Two Stage Least Squares

Limited Dependent Variable Models

Sample Selection Corrections

Simultaneous Equation Models

Regressions using Time Series Data

Panel Data Methods

Please refer to D2L for chapters relevant to these topics in Wooldridge and Stock and Watson.

Late Work

Assignments are due at the beginning of class on the due date unless otherwise noted. No assignment will be accepted after the correction of the assignment in class therefore, such assignments will receive a mark of zero. Before the correction in class, assignments are subject to a penalty of 5 percentage points per calendar day that you are late.

Policies concerning assignments

Collaboration on assignments is highly encouraged but plagiarism is not. You must hand in your own hand-written (except for the computer code and output) copy of the assignment. Assignments will contain both an analytic part and a computer-based part, for which you must use Stata or R. If you wish to use a different software package than Stata or R, you must obtain the agreement of the instructor one week prior to handing in the assignment. The instructor and TA will not provide any support in the use of other software packages than Stata and R. Stata can be purchased through a grad plan at lower prices than the list price (please see D2L on this) and is available in some arts computing labs (PAS-1237 and 1098). Stating who you worked with on the assignment is optional. Please use common sense when asking me to re-grade assignments.

Policy on Missed Tests

No make-up tests will be provided. Students who do not have a relevant medical certificate will receive a mark of zero on any missed test and their final grade will be computed in accordance with the formula specified above. For students who miss a test (or more) and have a relevant medical certificate for all tests missed, the weight of the missed test(s) will be transferred to the final. You must provide supporting documentation within 48 hours of the day of the midterm or exam, if you want the weight to be transferred to the final, for midterms, or if you want to write a make-up final, for the final. The instructor reserves the right to deny you these privileges if the documentation is not provided in a timely fashion. The economics department's policy on deferred exams is here: https://uwaterloo.ca/economics/current-undergraduates/policies-and-resources/deferred-final-exam-policy

Policy on remarking of Tests

If you feel that your test was not marked properly, you must advise the instructor within 10 calendar days of the test being handed back to the students in class. Note that if you want your test re-graded, I will remark the entire test (your mark may go up or down as a result of this).

Electronic Device Policy

You are welcome to use your laptop during class time. Students who use cell phones during class time will be asked to leave.

The use of recording devices is prohibited during class time. If you have a disability documented by the OPD that warrants the use of a recording device in class, you must provide the documentation proving this in order to be allowed to record classes.

Attendance Policy

Although presence in class is not required, it is highly recommended to attend classes. If you miss a class, you are responsible for making up for it, whatever the circumstances. I will not answer to emails and phone calls asking for information regarding the material covered in class. During the last 24 hours before a midterm or final, I will not answer to questions concerning material covered in class if you were absent and did not make a reasonable effort to catch up.

Note on the scheduling of midterms, exams and religious holidays

If an exam or midterm falls on the day of a religious holiday that is not observed by the university and you anticipate this to be a problem, you must consult with the associate dean of the faculty of Arts regarding other arrangements. You have 1 week after the announcement of the date of the midterm/exam to make a request of rescheduling based on these grounds (i.e. you have one week after the first class for midterms and one week after the schedule of the finals is publicized for the final exam). This is the University's policy.

Economics Department Deferred Final Exam Policy

Deferred Final Exam Policy found at https://uwaterloo.ca/economics/current-undergraduates/policies-and-resources/deferred-final-exam-policy.

Cross-listed course (requirement for all Arts courses)

Please note that a cross-listed course will count in all respective averages no matter under which rubric it has been taken. For example, a PHIL/PSCI cross-list will count in a Philosophy major average, even if the course was taken under the Political Science rubric.

Academic Integrity

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect and responsibility. See the UWaterloo Academic Integrity webpage and the Arts Academic Integrity webpage for more information.

Discipline: A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For

information on categories of offenses and types of penalties, students should refer to [Policy 71 - Student Discipline](#). For typical penalties check [Guidelines for the Assessment of Penalties](#).

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read [Policy 70 - Student Petitions and Grievances](#), Section 4. When in doubt, please be certain to contact the department's administrative assistant who will provide further assistance.

Appeals: A decision made or penalty imposed under Policy 70 - Student Petitions and Grievances (other than a petition) or Policy 71 - Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to [Policy 72 - Student Appeals](#).

Accommodation for Students with Disabilities

Note for students with disabilities: The [AccessAbility Services](#) office, located on the first floor of the Needles Hall extension (1401), collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the AS office at the beginning of each academic term.