

York University
Fall 2026
AP/ECON 3210 3.0
Use of Economic Data
– Syllabus –

Course Description

Introduces the theory and practice of empirical analysis of economic models. Develops tools to estimate economic relationships involving two or more variables and to test their significance. Relies on the use of Canadian data sets and statistical software packages to show how linear regression analysis is applied. Prerequisite: AP/ECON 2500 3.00 or equivalent. NCR: 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.

This course is about one question: **does X cause Y, and how would we know?** Economists ask it constantly. Does health insurance make people healthier? Does a smaller class raise test scores? Does a year of schooling raise wages? The data almost never answer directly, because the people who got the treatment differ from the people who did not. We learn to identify that problem, write it in a structured way, and use tools that address it: randomized experiments and regression.

We will work through real studies, including a randomized trial run on first-year students at a Canadian university and Canadian wage data. Statistical software (R) produces the tables and figures; you learn to **read** them and say what they mean. You will not write code and you will not be tested on code.

Course Objectives

By the end of this course, you will be able to:

1. **State a causal question precisely** — identify the treatment, the outcome, and the comparison, and explain in words and in notation why a raw difference in averages may not be a causal effect.
2. **Explain what randomization does** — say why random assignment removes selection bias, read the results of a randomized trial, and judge whether an effect is distinguishable from chance.
3. **Read regression output** — interpret coefficients, standard errors, and confidence intervals in plain language, for regressions with one regressor and with many.
4. **Reason about control variables** — use the omitted-variables bias formula to predict how an estimate changes when a variable is added, and decide whether a proposed control is good, useless, or harmful.
5. **Use the regression toolkit** — interpret dummy variables, logarithms, and interactions correctly.
6. **Read an empirical study critically** — take an unfamiliar published table and say what the causal claim is, what has been controlled for, and what to worry about.

Lectures and Office Hours

	Day	Time	Duration	Place
Lecture	M	8:30 – 11:20	170 min	DB 0014, Keele campus
Office hours (Ben)	TBA	TBA		TBA

How a Monday works

Every class runs 8:30 to 11:20 with one break. The **first 35 minutes** are short written problems on the previous week's material, worked on your own and then taken up on the board. They are not graded. You'll find these more useful if you show up on time and attempt the questions before we go over them. The idea is to prep you for actual exam questions, while reviewing previous material. **Solutions are worked on the board and are not posted.** If you miss the Monday, ask a classmate.

Ordinary Monday		Test Monday	
8:30 – 9:05	Problems on last week	8:30 – 9:30	New material
9:05 – 10:05	New material	9:30 – 10:05	Review for the test
10:05 – 10:20	Break	10:05 – 10:20	Break
10:20 – 11:20	New material	10:20 – 11:20	Test

On test days the material taught at 8:30 is on that test or the next one.

Readings

Read the assigned pages of the textbook **before** class. The Monday problems draw on the reading as well as on lecture. Readings are short; the whole term uses about two chapters.

Office Hours

Drop in during the scheduled time, or e-mail for an appointment.

E-mail and the course message board

Use the **eClass message board** for course questions; I aim to reply within one business day. I do not answer content questions by e-mail. For personal or private matters, e-mail is appropriate.

Assessment

Everything that counts toward your grade is written **in class, on paper, supervised**. There are no graded assignments, quizzes, or take-home work of any kind.

Component	Weight	Dates
Four in-class tests, best three count , 20% each	60%	Oct 5, Oct 26, Nov 9, Nov 30
Final exam	40%	Registrar-scheduled, December

You must pass the final exam to pass the course.

The tests

- One hour, in class, the last hour of the Monday listed.
- Each test covers the two or three sessions since the previous test. Tests are not cumulative, but the material builds, so later tests use earlier ideas.
- Every question has the same shape: a table or a short description of a study, then compute a number, choose the correct interpretation, or explain in a sentence.
- Closed book. A one-page formula sheet is provided with the test. Non-programmable calculators are permitted.

After each test. Tests are handed back and taken up in class. What is posted is a map of each question to the idea it tested, not the questions or the solutions. Test papers are course materials and are not to be shared or posted.

Best three of four. Your lowest test is dropped automatically. Because of this, **there are no makeup tests**. If you miss a test for any reason, that is your dropped test. No documentation is needed and none is accepted. If you miss two tests, the second one counts as zero.

The final exam

- Registrar-scheduled during the December examination period.
- Cumulative. The anchor of the final is a **capstone question**: an unfamiliar published study with its tables, which you read and evaluate using everything from the course. The final is otherwise made of the same kinds of questions as the tests, drawn from all four test topics.
- Closed book, formula sheet provided, non-programmable calculators permitted.
- **Deferred standing.** If illness or other circumstances prevent you from writing the final, submit the Department of Economics deferred exam request: <https://www.yorku.ca/laps/econ/undergraduate-programs/academic-resources/departments-policies/deferred-standing/>. Deferred standing applies to the final exam only; the tests are covered by the best-three rule.

Practice problems

Practice problems will be posted on eClass. They are not collected or graded. They are for your benefit only. They may be sourced from the publisher of the text.

Why this system?

- **What you are graded on is what you can do on your own.** Individual performance is measured.
- **One bad day does not matter.** Four tests, best three. A missed test costs nothing.
- **You always know where you stand.** Two tests are graded and returned before the drop deadline (November 10).
- **The final has teeth.** It is 40% and you must pass it. Doing well on tests and then coasting is not a strategy.

Accessibility: Students requiring accommodations should contact Student Accessibility Services and the instructor as early as possible in the term.

Schedule

Table 1: Fall 2026 schedule (subject to change; the eClass version is authoritative). Readings are from Mastering 'Metrics.

#	Date	Topic	Reading	Test
1	Sep 14	Causal questions; would they have been different anyway?	Introduction; Ch. 1 to Table 1.1	
2	Sep 21	Bridging from second year: expectation and conditional expectation. Then potential outcomes, selection bias, why randomization works	Ch. 1 through the RAND experiment	
3	Sep 28	Inference, once: standard errors, t, confidence intervals. Difference in means in a randomized trial	Ch. 1 appendix	
4	Oct 5	Reading the results of a randomized trial	Ch. 1, Oregon	Test 1: sessions 2–3
	<i>Oct 12</i>	<i>Reading week — no class</i>		
5	Oct 19	Regression: a tool for comparisons that scales. One regressor, then a control. Omitted-variables bias, introduced	Ch. 2 opening; Ch. 2 appendix	
6	Oct 26	Why coefficients move when a control is added. Reading a regression table	Ch. 2	Test 2: sessions 4–5
7	Nov 2	Multiple regression: what holding constant means. Omitted-variables bias, derived	Ch. 2	
8	Nov 9	What to control for: good and bad controls	Ch. 2, end	Test 3: sessions 6–7
9	Nov 16	Dummy variables. Logarithms	Ch. 6 opening (optional)	
10	Nov 23	Interactions. From raw data to a table: a live demonstration		
11	Nov 30	Capstone: reading a published study		Test 4: sessions 8–10
12	Dec 7	Review for the final		

Important dates. Last day to drop without a grade: **November 10**. Add/drop/withdrawal dates for 2026–27: <https://registrar.yorku.ca/enrol/dates/2026-2027/fall-winter>.

Required Course Materials

Textbook (required): Angrist, Joshua D. and Jörn-Steffen Pischke, *Mastering 'Metrics: The Path from Cause to Effect*, Princeton University Press, 2015 (ISBN 978-0691152844). **Estimated cost: about \$61 CAD** (paperback, Amazon.ca, September 2026). No access code, no online platform. Any format (print, e-book, used, library copy) is fine, and earlier printings are identical. We use the Introduction, Chapter 1, and Chapter 2; Chapters 3–6 are the material for ECON 4210, so if you continue in econometrics the book continues with you.

Where to get it. The York Bookstore has ordered paper copies, but they will take some time to arrive. The fastest options are the **e-text from the York Bookstore's VitalSource storefront** (\$61 CAD, lifetime licence; purchase and technical support are handled by VitalSource directly), or a paperback from any online retailer. The first reading is short; don't let the book's arrival hold you up.

Free companion (optional): Hanck, Arnold, Gerber and Schwardt, *Introduction to Econometrics with R*, <https://www.econometrics-with-r.org/>. Useful if you want more detail on the mechanics of regression,

dummy variables, logs, or interactions than the textbook gives.

Formula sheet: the one-page sheet provided with every test and the final is posted on eClass at least two weeks before Test 1, so you can get used to it before you need it.

Technical Requirements

eClass, for notes, practice problems, the message board, and grades. That is all. You do **not** need to install R or any other software. There is no online homework platform.

Academic Integrity

Why: Upholding high standards of Academic Integrity is essential for successful academic discourse, and to the pursuit of learning and scholarship. Respecting and enforcing these standards at our university ensures that the degree you earn is a strong signal of your learning and academic achievement.

How: You uphold high standards of Academic Integrity by:

- doing and submitting only your own work
- not permitting others to use your answers
- giving credit to others for their ideas and works, including the use of generative AI
- quoting your sources, correctly paraphrasing and summarizing

In this course all graded work is written in class under supervision, so the main integrity issues are the usual ones for exams: no unauthorized materials, no communication during a test, and identification on request. Multiple versions of each test are used.

More information: If you have questions or concerns about what constitutes appropriate academic behaviour, please consult with me or seek additional resources.

Enforcement: York University takes its responsibility to uphold high academic standards very seriously. The Senate Policy on Academic Conduct outlines behaviours that constitute academic dishonesty and processes for addressing academic offences. Sanctions in cases of cheating can include temporary and permanent records on your transcript, suspension from the course, or suspension from the University.

It is not up to the instructor: If I observe behaviour that might involve academic dishonesty, I am required to report it. It is not up to me to judge whether the behaviour was unintended, a minor infraction, a first-time infraction, etc. I am professionally bound to report any suspicious behaviour.