



## **ECON 345 A02: Applied Econometrics**

**CRN: 11175**

**Fall Session: 2022**

**Instructor Name:** Brooklynn Comish-Trimble

**E-Mail:** trimbleb@uvic.ca

**Zoom Office Hours:** Tuesday 1:00pm-2:30pm (Starting Week of Sept 12<sup>th</sup>, See course page for link)

**Lectures:** Monday & Thursday 4:30pm-5:50pm COR A221

**Senior Lab Instructor:** Nicholas Karlson, nkarlson@uvic.ca

### **Course Content**

An intuitive development of the basic concepts and techniques in econometrics. The emphasis is on the application of econometric concepts and techniques in analyzing economic phenomena. This course provides a general introduction to the practice of econometric analysis. While motivated by intuition and applications, the presentation of estimators and tests will be primarily mathematical in nature. We will focus largely on multiple regression techniques in cross-sectional data analysis (as well as time series analysis), considering common issues and problems that arise in applied empirical social science research. Students will learn R — a freely available and widely used statistical programming language — to analyse and plot data, draw inference, and compare alternative modelling approaches. The course closely follows the textbook “Introductory Econometrics: A Modern Approach” by J. Wooldridge.

### **Learning Outcomes:**

In this course you will gain an understanding of econometric methods and their applications. You will learn how to analyse data, interpret existing analyses, the basics of econometric theory that underpins econometric analysis, as well as independent research skills starting from formulating a research question to concise presentation of results. The course leads to highly transferrable modelling and programming skills through lab-based instruction using the statistical programming language R (widely used in academic research, government roles, and the private sector).

### **Textbooks**

**Textbook (required):** The required textbook for this course is “Introductory Econometrics: A Modern Approach,” (Seventh Edition) by J. Wooldridge. It may be sold at the bookstore as a loose-leaf text and e-text (which saves you money), but you are welcome to buy it in bound form.

**MindTap (Strongly Recommended):** The loose-leaf textbook is bundled with MindTap, which provides additional notes and is required for submission of online assignments. Students can register for the course on MindTap online. If you buy a bound copy, make sure it is bundled with MindTap.

#### **MindTap Information:**

Course Link: <https://login.nelsonbrain.com/course/MTPQ85QZ97BR>

Course Key: MTPQ85QZ97BR

**Lab Textbook (optional):** Labs will be based on the statistical programming language R. The optional textbook “Using R for Introductory Econometrics” (Heiss, 2016) provides code to complete the exercises in Wooldridge and is freely available online at: <http://www.urfie.net/>

## Prerequisites and Minimum Grade Requirements

Complete one of: Econ 103, 103C, or 180

Complete all of: Econ 104

Earn a minimum C+ in one of: Econ 245 or Stat 260

Complete one of: Econ 246 or Stat 260

Complete one of: Econ 225 or Engr 240

Complete one of: Math 100, 102, or 109

## Grading

There are two assessment options for Econ 345 A02. You do not need to choose your assessment option in advance, I will select the option that gives you the best grade at the end of term. Each of these options is outlined in the table below:

<b>Option 1</b>		<b>Option 2</b>	
<i>Component</i>	<i>Weighting (%)</i>	<i>Component</i>	<i>Weighting (%)</i>
Midterm 1	13	Midterm 1	15
Midterm 2	13	Midterm 2	15
Midterm 3	13	Midterm 3	15
Topic Approval	5	Topic Approval	5
Literature Review	5	Literature Review	5
Draft	10	Draft	10
Peer Review	10	Peer Review	10
Final Paper	15	Final Paper	15
Labs	10	Labs	10
MindTap	6	MindTap	/

**Term Exams:** There will be three term exams consisting of a combination of multiple choice and written response style questions.

Items permitted during exams are: a non-programmable calculator without storage capacity (no Ti 89 etc.), pen and pencil, a water bottle, and your ID card. Any additional material will not be allowed on your desk during examinations unless approved in writing by myself beforehand. If you miss a term exam without illness or family affliction, you will receive 0% on the exam.

Note: All Material covered in lectures, labs, and relevant textbook chapters, may appear on the exam, thus attendance in lectures and labs is highly encouraged. Attendance highly correlates with final course grades. All exams are cumulative since the material presented in lectures and chapters builds on itself.

**Exam 1:** In Class October 3<sup>rd</sup>

**Exam 2:** In Class November 3<sup>rd</sup>

**Exam 3:** In Class December 5<sup>th</sup>

You must contact the course instructor as soon as reasonable if you miss an exam. One re-write will be scheduled for each exam and available to students with an appropriate reason for missing the exam. The re-write will cover the same material but will be a different format. There may be more emphasis on coding and written response on the re-write exam.

**Research Project:** The research project is designed to give you real-world experience conducting research. You may choose any topic and dataset and estimate models to answer a research question that interests you (that you have not previously researched). You will present your results in the form of a written essay (maximum length of 5 pages of writing+ references/tables). You may work individually, with a partner, or as a group of 3.

You must cite any literature or outside source you discuss and any data and methods you use. You will use APA citations in this class. The consequences of plagiarism range from a failing grade for an assignment or course to disciplinary probation or even expulsion from the university. If you have any questions about academic integrity or what is considered plagiarism – please reach out to the instructor or the Center for Academic Communication. No extensions will be granted on the project. If the final project, or one of its components, is submitted late - 25% of your score will be deducted per 12 hours past the due date. [after 48 hours late, a grade of 0 is assigned]

The research project will be graded in several parts:

**Topic Approval: October 3<sup>rd</sup>** (at the latest – if you have an idea, get it approved and get started!). You must receive confirmation from me that your question and dataset are appropriate. You must clearly state whether you are working independently or with a partner in the class.

**Literature Review: October 16<sup>th</sup>** You must submit a literature review and bibliography online. We will use APA citation formatting in this course.

**Draft Submission: November 7<sup>th</sup>** You must submit your paper draft (including something completed in each section of your paper) online.

**Peer Review Submission: November 18<sup>th</sup>** You need to connect with a peer/group, swap papers, and provide constructive and respectful feedback. A digital copy of BOTH the feedback you provided and the feedback you received on your paper must be uploaded.

**Final Submission: December 7<sup>th</sup>** Submit your final paper. You will also submit your code and dataset.

**MindTap Exercises:** MindTap exercises are designed to give you regular practise of the concepts learned in lectures and to keep you motivated with the readings. These are designed to be completed on a weekly basis. No extension will be granted on MindTap exercises. None.

You are encouraged to keep up with the weekly assignments as we cover the material. However, I understand that life happens! All of the MindTap Exercises will be due December 4<sup>th</sup> at 11:59pm.

**Lab Participation (10%):** Lab exercises are designed to teach you econometric modelling in practise using the statistical programming language R. At the end of each lab week, you will be asked to hand in answers to a short set of questions on Brightspace. No extensions will be granted on lab exercises. You may collaborate on the lab assignments with your classmates, but you must submit your own work! If your lab discussion matches (or nearly matches) your classmates, this will be considered cheating.

You are encouraged to attend your lab session, as this will help you greatly on the lab exercises. However, if you are unable to attend your session – you may watch the recording and submit your lab assignment regardless.

**Essential Course Requirements:** The Final Paper Submission, and one term exam must be completed to not receive an “N” on this course. Failure to complete these requirements will results in a grade of “N” regardless of the cumulative percentage in the course. “N” is a failing grade and factors into GPA as a value of 0.

### Grading Scale:

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

Students should review the University’s more detailed [summary of grading](#).

### Course Schedule (Tentative):

Topic	Chapter	Week	Important Dates
Course Intro and Statistics Review	Appendices A-C	1 – Sept 5	No Class Monday - Holiday
Statistics Review	Appendices A-C	2 – Sept 12	
Introduction to Econometrics	1	3 – Sept 19	Labs Start
Univariate Regression	2	4 – Sept 26	
Multivariate Regression	3	5 – Oct 3	Term Exam 1 – Oct 3 <sup>rd</sup> Paper Topic Approval Due Oct 3 <sup>rd</sup>
Inference	4	6 – Oct 10	No Classes Monday – Holiday
Asymptotic	5	7 – Oct 17	Literature Review – October 16 <sup>th</sup>
Model Specification Issues	6	8 – Oct 24	
Dummy Variables	7	9 – Oct 31	Term Exam 2 – November 3 <sup>rd</sup>
Introduction to Time Series	10	10 – Nov 7	Draft Due November 7 <sup>th</sup> No Class Thursday – Reading Break
Introduction to Time Series	10	11 – Nov 14	Peer Review Due November 18 <sup>th</sup>
Heteroskedasticity	8	12 – Nov 21	
Determining Causality and Instrumental Variables	15	13 – Nov 28	
Final paper submission	/	14 – Dec 5	MindTap Due December 4 <sup>th</sup> Term Exam 3 – December 5 <sup>th</sup> Final Paper Due December 7 <sup>th</sup>

### Other Important Dates:

September 7<sup>th</sup> - Classes start  
 September 20<sup>th</sup> - 100% fee reduction deadline for dropping courses  
 September 23<sup>rd</sup> - Last day to add a course  
 September 30<sup>th</sup> - Fee deadline  
 September 30<sup>th</sup> - National Day for Truth and Reconciliation (No Classes)  
 October 10<sup>th</sup> – Thanksgiving (No Classes)  
 October 31<sup>st</sup> – Last day for withdrawing without penalty of failure  
 November 9<sup>th</sup> – November 11<sup>th</sup> – Reading Break (No Classes)  
 December 5<sup>th</sup> – Last day of classes

### E-mail correspondence

Emails should be limited to critical matters, such as inability to attend class, an exam, or prolonged illness, and should include the course name and number in the subject line. Questions on course material should be asked during office hours, in class, during labs, or on our Brightspace discussion boards.

The standard format for writing an email must be used. This means it should begin with a salutation (e.g. Dear....), include full sentences and it must conclude with a signature that includes your **full name and V#**. Text message lingo should not be used. **Please address me in your emails as either Brooklynn or Instructor Comish-Trimble.** Do not use Mrs. Ms. Miss. Ma'am. If you do not receive a response within two business days, please send me a polite and gentle reminder.

### Lecture and Lab Recordings

It is my intention to record and post every lecture and lab session on Brightspace. If you ask a question during a session, your voice will be present in the recording.

## Course Policies

This course adheres to the [Undergraduate Course Policies](#) of the Department of Economics that deal with the following issues:

- Academic concessions
- Academic integrity (plagiarism and cheating)
- Attendance
- Grading
- Inclusivity and diversity
- Late adds
- Late assignments
- Repeating courses
- Review of an assigned grade
- Sexualized violence prevention and response
- Students with a disability
- Term assignments and debarment from examinations
- Travel plans
- Waitlists

The following policies are explicitly included because of their importance.

## Examinations

Participation in-person for all scheduled examinations is mandatory. Consideration for missed examinations will be given only on the basis of documented illness, accident or family affliction, and for no other reasons. In the event of a missed final examination, students are advised to follow the procedures outlined in the [University Calendar](#).

Students are advised not to make work or travel plans until after the examination timetable has been finalized. Students who wish to finalize their travel plans at an earlier date should book flights that depart after the end of the examination period. There will be no special accommodation if travel plans conflict with the examination.

## Waitlist Policies

- Instructors have no discretion to admit waitlisted students or raise the cap on the course.
- Students on the waitlist should discuss with the instructor how to ensure they are not behind with coursework in the event they are admitted.
- Registered students who do not participate as specified in this outline during the first 7 calendar days for Term One, or the first 2 class meetings for Term Two and Three courses, may be dropped from the course.
- Registered students who decide not to take the course are responsible for dropping the course, and are urged to do so promptly out of courtesy toward waitlisted students.
- Waitlist offers cease after the last date for adding courses irrespective of published waitlists.

## Academic Integrity

Academic integrity requires commitment to the values of honesty, trust, fairness, respect, and responsibility. Students are expected to observe the same standards of scholarly integrity as their academic and professional counterparts. A student who is found to have engaged in unethical academic behaviour, including the practices described in the [Policy on Academic Integrity](#) in the University Calendar, is subject to penalty by the University.

Review [What is Plagiarism](#) for the definition of plagiarism. Note: Submitted work may be checked using plagiarism detection software.

## **Student Code of Conduct**

The Humanities, Science, and Social Sciences Faculties have adopted this [Student code of conduct](#). Please, review.

## **University Policy on Human Rights, Equity and Fairness**

The University is committed to promoting, providing and protecting a positive, supportive and safe learning and working environment for all its members.

See [General University Policies](#)

## **Accessibility & Health Resources**

### [Centre for Accessible Learning](#)

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, you are free to approach me; however, you must register with the [Centre for Accessible Learning](#) (CAL) for formal arrangements to be made. The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

[Health Services](#) - University Health Services (UHS) provides a full service primary health clinic for students, and coordinates healthy student and campus initiatives.

[Support Connect](#) - a 24/7 mental health support service for students

- Toll-free (calls from North America): 1-844-773-1427
- International collect calls: 1-250-999-7621

[Counselling Services](#) - Counselling Services can help you make the most of your university experience. They offer free professional, confidential, inclusive support to currently registered UVic students.

[Elders' Voices](#) - The Office of Indigenous Academic and Community Engagement (IACE) has the privilege of assembling a group of Elders from local communities to guide students, staff, faculty and administration in Indigenous ways of knowing and being.

## **Brightspace**

Brightspace is used extensively for the course. All students are expected to be fully functional with the system.

- The lecture notes will be posted in Brightspace. Please note that the lecture notes online are only outlines of the actual lectures.
- The lecture videos will be posted through Echo360 on Brightspace.
- Your lab assignments and all written project components will be submitted via Brightspace.
- All announcements will be posted in Brightspace. Students are advised to check it frequently.

## **UVic Land Acknowledgement**

We acknowledge with respect the Lekwungen peoples on whose traditional territory the University of Victoria stands, and the Songhees, Esquimalt and WSÁNEĆ peoples whose historical relationships with the land continue to this day.

## Repeating Courses

Be aware of the policy regarding the repeating of courses; see [University Calendar](#).

In order to request permission to attempt this course for the third time, you must follow the instructions provided under the [Repeating Courses](#) policy on the Economics website.

Failure to obtain permission will result in deregistration from the course.

## Course Experience Survey (CES)

I value your feedback on this course. Towards the end of term you will have the opportunity to complete a confidential course experience survey (CES) regarding your learning experience. The survey is vital to providing feedback to me regarding the course and my teaching, as well as to help the department improve the overall program for students in the future.

When it is time for you to complete the survey, you will receive an email inviting you to do so. If you do not receive an email invitation, you can go directly to the [CES log-in](#). You will use your UVic NetLink ID to access the survey, which can be completed on your laptop, tablet or mobile device. I will remind you nearer the time, but please be thinking about this important activity, especially the following three questions, during the course.

- What strengths did your **instructor** demonstrate that helped you learn in this course?
- Please provide specific suggestions as to how the **instructor** could have helped you learn more effectively.
- Please provide specific suggestions as to how this **course** could be improved.

## Electronic devices

You are encouraged to install econometric software on your personal computers. R (<https://cran.r-project.org/>) and RStudio (<https://www.rstudio.com/>) are freely available online, the lab will cover use of the software. You are also encouraged to bring your own laptops with R and RStudio installed to the labs.

## Sexualized Violence Prevention & Response

UVic takes sexualized violence seriously, and has raised the bar for what is considered acceptable behaviour. Students are encouraged to learn more about how the university defines sexualized violence and its overall approach by visiting [www.uvic.ca/svp](http://www.uvic.ca/svp). If you or someone you know has been impacted by sexualized violence and needs information, advice, and/or support please contact the sexualized violence resource office in Equity and Human Rights (EQHR). Contact [svpcoordinator@uvic.ca](mailto:svpcoordinator@uvic.ca).