University of Alberta
Department of Economics
Econ 299 – A01
Quantitative Methods in Economics

Fall 2025   L. Priemaza

Class Schedule: *(Note: all times and dates refer to Edmonton time)*

Lectures:	TB-70	Monday, Wednesday 11:00am – 11:50am
Labs:	T B-39	Tuesday 11:00am – 11:50am
	T B-39	Wednesday 2:00pm – 2:50pm
E-mail:	lorne.priemaza@ualberta.ca	
Office Hours:	Wednesday, 2:30 to 3:30 in Tory 7-21	
	Additional Zoom meetings available by appointment.	

Course Websites: www.ualberta.ca/~priemaza and Canvas.

Course Description:

Introduction to the use of statistical methods in economics with computer applications. (Excel and Cansim).

Prerequisites:

- ➢ ECON 101 and 102 (or equivalents)
- ➢ STAT 141 or 151 or 161 (or equivalent)
- ➢ MATH 154 (or equivalent)

These prerequisites will be enforced by the department (your enrolment may be cancelled).   Please inform the instructor if you do not have these courses or are unsure about equivalents.

Evaluation: (Due dates in schedule below.)

1 - Chapter Mini Assignments (13)	24%
2 - Lab Assignments (10)	8%
3 - Paper	
Paper Proposal, Paper Update	2%
Group Paper	25%
Group Project PowerPoint	5%
Group Multiple Choice Submission	2%
Individual Multiple-Choice Assignment	4%
4 - Final Exam	30%

Four-Point Grade System Implementation

"Grades reflect judgements of student achievement made by instructors". "These judgements are based on a <u>combination</u> of <u>absolute</u> achievement and <u>relative</u> performance in a class."   *- Evaluation Procedures and Grading System*

Grades will be collected and aggregated in percentage form and assigned letter grades at the conclusion of the course. Letter grades will be assigned using natural distribution gaps in the class grade distribution. Improvement and class attendance will be considered for rare borderline cases.

My Guarantee: An aggregate percentage grade of 60% will <u>not</u> be assigned a grade of <u>less than</u> D (1.0 – minimal pass).

Required Books and Materials:

➤ Priemaza, L. (2016, 2020) *Econ 299 Lab Manual (www.ualberta.ca/~priemaza*)
➤ Web Notes (www.ualberta.ca/~priemaza)
➤ Microsoft Office (to work on labs at home – https://ualberta.onthehub.com)
➤ Computer Requirements - https://www.ualberta.ca/information-services-and-technology/services/software-hardware-vendors/technology-requirements.html
➤ Direct or alternate access to UofA email - https://www.ualberta.ca/information-services-and-technology/services/email-calendaring/index.html
➤ Scientific Calculator

Optional Books and Materials:

➤ Anderson or Camm et Al. (2016/2019/2025) *Modern Business Statistics with Microsoft Office Excel. (6th to 8th Edition)* (Cengage Learning)
➤ E-book version available at https://www.cengage.com/coursepages/University_ECON299_W23_Priemaza

Student Academic Integrity Policy and the Student Conduct Policy:

"Policy about course outlines can be found in the Evaluation Procedures and Grading System section of the University Calendar."

"The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Student Academic Integrity Policy and the Student Conduct Policy (on the University of Alberta Policies and Procedures Online (UAPPOL) website) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University."

Class Notes:

1) All course notes are available for free at www.ualberta.ca/~priemaza.   Instructional videos covering notes and extra examples are available weekly in Canvas.

2) Class assignments can be accessed via Canvas and are due as listed in the syllabus schedule by 11pm Edmonton time. It is a student's responsibility to ensure that assignment answers are correctly submitted before the due date.

3) Before class assignments can be accessed, students must view a plagiarism video on Canvas. See Canvas for details.

4) There are 13 class assignments worth 2% each, to a maximum of 24%. As there are more assignments than needed, no consideration will be given to missed assignments except under extreme circumstances.

5) The final exam will be cumulative, and will be written on Canvas.

6) Class assignments and the final exam are mostly multiple choice and numerical response questions. Students are encouraged to prepare a formula sheet for the final exam. Class assignments provide examples of final exam questions.

7) Class assignments and exams are INDIVIDUAL activities, which students must complete themselves.

8) If you miss the final exam for a valid medical reason or severe domestic affliction, you may apply to YOUR FACULTY for the privilege of a re-write. Please refer to the University Calendar for the proper procedure.

9) Final marks will be determined by adding the marks obtained on each assessment component. Conversion of these marks to a letter grade will not follow a set grade distribution.

10) If cheating or any other violation of the Student Conduct Policy and/or Student Academic Integrity Policy is suspected, the instructor is required to report the case to the faculty for investigation.

   Examples of Cheating: Having someone else, in part or total, contribute to an answer on an assignment or exam. Helping another student complete an assignment or exam problem. Submitting an example (textbook, TA, or any other example) for marks. Having access to a cell phone during an exam.

   Not Cheating: Studying together. Helping another student do a PRACTICE problem. Lending notes. Working on formula sheets together.

11) The instructor reserves the right to adjust marking weights in individual <u>extreme</u> cases.

12) Audio or video recording, digital or otherwise, of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as part of an approved accommodation plan. Student or instructor content, digital or otherwise, created and/or used within the context of the course is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the content author(s).

<u>Use of AI in course:</u>

In this course, our primary focus is to cultivate an equitable, inclusive, and accessible learning community that emphasizes individual critical thinking and problem-solving skills. To ensure a fair and consistent learning experience for all students, the use of advanced AI tools such as ChatGPT or Dall-E 2 is strictly prohibited for all academic (written/coding/creative/etc.) work, assignments, and assessments in this course. Each student is expected to complete all tasks without substantive assistance from others, including AI tools.

Any use of AI tools in your academic work may result in academic penalties and be considered an act of cheating and a violation as outlined in the relevant sections of University of Alberta Student Academic Integrity Policy and/or Student Conduct Policy.

<u>Lab Notes:</u>

1) The lab manual is available for free online on the course website. Refer to the syllabus schedule for the timing of labs. TA lab instruction, support, and further information will be available on Canvas.

2) All lab assignments are available on the Canvas. All lab assignments are submitted on Canvas before due dates as listed in the syllabus schedule (11pm Edmonton time). It is a student's responsibility to ensure that assignment answers are correctly submitted before the due date. Late labs will receive a mark of zero.

3) Each lab assignment will receive a mark of 1, 1/2, or 0. A student's achievement in this section will be the cumulative total of all lab assignments, up to a maximum of 8. As such, it is possible to miss lab assignments without penalty, and no consideration will be given to missed lab assignments except under <u>extreme</u> circumstances.

4) Audio or video recording, digital or otherwise, of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as part of an approved accommodation plan. Student or instructor content, digital or otherwise, created and/or used within the context of the course is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the content author(s).

Group Project Notes:

1) For key information on the paper, please refer to the Group Project assignment on the class webpage.

2) All students will be required to participate in a group data project. Groups can be assembled using Canvas forums.

3) Each group must submit a paper proposal according to the syllabus schedule, outlining group members, responsibilities, and possible topics. Topics can change, but group members cannot.

4) Each group must submit a paper update according to the syllabus schedule, confirming topic, responsibilities and current progress.

5) Each group must assemble a short PowerPoint presentation and multiple-choice questions on their paper, details on website and Canvas.

6) Students will individually complete a multiple-choice assignment based on these PowerPoint presentations.

7) Each student is expected to contribute significantly to their group paper. Since the paper's components are worth around 1/3 of the class mark, each student should expect to spent 20 to 40 hours in the term on their paper.

Important: Econ 299 Final Exam

The final will be in the Learning Assessment Center (LAC). Students can choose an exam time between **Monday, Dec. 15th** and **Friday, Dec. 19th**. Sign-up link will be on Canvas early to mid-September. SIGN UP EARLY.

Additional final exam information will be available in Canvas.

<u>Outline of Topics</u>
(Minor adjustments possible)

<u>Part 1: Data</u>

*1. **Data Collection and Calculation (Notes, with some Text concepts)***
    1.1 The Importance of Data
    1.2 Data Collection and Measurement
    1.3 Price Indexes
    1.4 Growth Rates and Inflation
    1.5 Interest Rates
    1.6 Aggregating Data: Stocks and Flows
    1.7 Seasonal Adjustment
    1.8 Big Data and Data Mining
    Appendix 1.1 Exponentials and Logarithms

*2. **Descriptive Statistics: Tabular and Graphical Displays (Text)***
    2.1 Bar Charts and Pie Charts
    2.2 Histogram
    2.4 Scatter Diagram and Trendline
    2.4 Side-by-Side and Stacked Bar Charts

Note: Chapter 2 will be primarily student self-study using Canvas videos, with only minor review in-class.

<u>Part 2: Statistics – Probability and Full Information</u>

*4. **Introduction to Probability (Text)***
    4.2 Events and Their Probabilities
    4.3 Some Basic Relationships of Probability
    4.4 Conditional Probabilities

*5. **Discrete Probability Distributions (Text)***
    5.1 Random Variables
    5.2 Developing Discrete Probability Distributions
    5.3 Expected Value and Variance
    5.4 Bivariate Distributions, Covariance and Financial Portfolios

*6. **The Normal Distribution (Text, with some Notes concepts)***
    3.3 Measures of Distribution Shape and Relative Location
    6.2 Normal Probability Distribution
    6.3 Normal Distribution Application (Notes)

Part 3: Statistics – Random Samples and Partial Information

3. *Descriptive Statistics: Numerical Measures (Text)*
3.1 Measures of Location
3.2 Measures of Variability
3.5 Measures of Association Between Two Variables
3.6 T-tables (Notes)
7.5 Sampling Distribution of Xbar

Part 4: Confidence Intervals and Hypothesis Tests on Data

8. *Interval Estimation (Text)*
8.2 Population Mean: sigma Unknown

9. *Hypothesis Tests (Text)*
9.1 Developing Null and Alternate Hypotheses
9.2 Type 1 and Type 2 Errors
9.4 Population Mean: sigma Unknown

Part 5: Introduction to Regressions

13. *Functional Forms (Notes only)*
13.1 An Introduction to Functional Forms
13.2 Mathematical Models of Economic Relationships
13.3 Interpreting Equations
13.4 Error Terms

14. *Simple Linear Regression (Text)*
14.1 Simple Linear Repression Model
14.2 Least Squares Method
14.X OLS Extensions

Econ 299 – Planned Schedule for Fall 2025 (All dates and times Edmonton Time.)

Week #	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 - No Labs		Sept. 1	2	3	4	5	6
2 - No Labs	Sept. 7	8	9	10	11	12	13
3– Solo Lab 1	Sept. 14	15 *Add/Drop Deadline*	16	17-**Project Proposal Due**	18 C0 Due	19	20
4 - Lab Week 2	Sept. 21	22	23	24	25 C1a Due	26 *L1 Due*	27
5- Lab Week 3	Sept. 28	29	30	Oct. 1	2 C1b Due	3 *L2 Due*	4
6 – Lab Week 4	Oct. 5	6	7	8-**Project Update Due**	9 C2 Due	10 *L3 Due*	11
7- Lab Week 5	Oct. 12	13	14	15	16 C4 Due	17 *L4 Due*	18
8 – Lab Week 6	Oct. 19	20	21	22	23 C5ab Due	24 *L5 Due*	25
9 – Lab Week 7	Oct. 26	27	28	29	30 C6 Due	31 *L6 Due*	Nov. 1
10 – Lab Week 8	Nov. 2	3	4	5	6 C3 Due	7 *L7 Due*	8
11 - No Labs	Nov. 9	10	11	12	13	14 *L8 Due*	15
12 – No Labs	Nov. 16	17	18	19- **Group Project Due**	20 C8 Due	21	22
13 –Lab Week 9	Nov. 23	24- **Group PowerPoint & MC Due**	25	26	27 C9 Due	28	29
14 -Lab Week 10	Nov. 30	Dec. 1	2 *Withdrawal Deadline*	3	4 C13 Due	5 *L9 Due*	6
15 – No Labs	Dec. 7	8 C14 Due	9 **IMC Due**	10 **Timesheet Due**	11	12 *L10 Due*	13
16	Dec. 14	15	16	17	18	19	20
17	Dec. 21	22	23	24	25	26	27

Notes: "**C**" refers to class assignments. "**IMC**" refers to individual multiple-choice assignment. "**L**" refers to lab assignments. This is an estimated assignment schedule only; refer to the individual assignment for official due date.
All assignments due on Canvas by **11:00 PM** (Edmonton Time).

<u>Five Secrets to Success in Econ 299</u>

1) **<u>Office Hours</u>**– If you have any questions in the term regarding material, assignments, papers, exams, etc, please come to my office hours (or book alternate office hours). Email is great for quick questions, but I see many students losing marks on assignments, papers and exams over issues that could have easily been fixed in office hours. WHEN IN DOUBT- COME AND ASK.

2) **<u>Notes</u>** – read and understand them. The easiest way for most students to do this is come to class. If you are ill, Canvas videos are a weaker substitute.

3) **<u>Formulas</u>** – know <u>how</u> to use them. There is a lot of math in this class. You need to know how to use every formula presented.

4) **<u>Interpretation</u>** – know how to explain your answers and course material. You need to be familiar with definitions and concepts as well as be able to explain the numerical results of your formulas. (See 2.)

5) **<u>Practice</u>** – do it. Econ 299 is typically a very difficult class, which can be reduced to a difficult class if you practice. The easiest way to start this is by following along the in-class examples. If you want more practice, you can use the example videos posted on Canvas. Pause and use your calculator and enjoy the free practice with the instant feedback as the professor calculates the correct answers. Secondly, you can take any of the above questions, change a few numbers, and SHAZAM – more practice.

6) **<u>Labs</u>** – know them. By the end of this course, you are responsible for all the exercises in Excel and Cansim. The material covered in the labs is essential for the group project report.