# ECON 2613 (A2) - Empirical Analysis in Economics and Business
Department of Economics
Acadia University
Winter 2020

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| Instructor | Dr. Justin Beaudoin |
| Email | justin.beaudoin@acadiau.ca |
| Office Location | BAC 346 |
| Office Hours | Tue/Wed, 10:00am - 11:30am (and by appointment) |
| Course Website | Access via ACORN |
| Class Location | BAC 239 |
| Class Times | Mon/Wed, 2:30 - 4:00pm |

## Course Materials

ACORN will be used for class announcements and will contain all course materials: syllabus, class notes/slides, practice problems, and materials for quizzes, tests and exams.

## Office Hours

I encourage you to attend office hours if you have questions regarding the course material. Please email me or see me in person to arrange a time to meet. Should any issues or concerns arise throughout the course, you are encouraged to consult with me as soon as possible so that we can work together to find the resources to help you succeed.

## Course Description

This course aims to provide an introduction to empirical analysis in Economics and Business making extensive use of Microsoft Excel. Topics include both descriptive and inferential statistics, culminating in hypothesis testing and an introduction to regression analysis. Note: Credit cannot be obtained for both Econ 2613 and Math 1213.

## Course Learning Objectives

The material in this course serves as the foundation and a prerequisite for several upper-level elective courses in economics, including ECON 2623: Introduction to Econometrics. A solid understanding of the material in this course is important for further studies in economics, and the skills developed in the course have wide applicability for a variety of careers. By the end of the course, students will have learned the basic analytic skills and techniques that will allow them to be both producers and consumers of quantitative information.

More specifically, upon course completion students are expected to be able to:

- critically evaluate statements that contain quantitative information,

- understand data tables and graphical representations of data,

- produce accurate and understandable summaries of data,

- understand the limitations of available data,

- appreciate the inherent uncertainty of observed data,

- use statistical tools to assist in decision-making, and

- apply statistical reasoning in everyday life.

**Textbook**

The required textbook is available at the bookstore: "Business Statistics: A First Course", by Levine, Szabat and Stephan.

Our course will follow the organization of the 8th edition of the textbook fairly closely according to the scheduled outlined below, though previous editions of the textbook are very similar and can be used for the course.

**Economics Help Desk (Tutoring)**

TBD

**Optional Tutorials & Review Sessions**

Throughout the course we will hold optional tutorial sessions on select Fridays, from 12:30 - 1:30 in BAC 142. These sessions will primarily be focused on working through practice problems in Excel. We will also have optional review sessions prior to the midterm and final exams, with details to be provided as the course proceeds.

**Statistics Workbooks**

Optional (but highly recommended) workbooks are available for purchase in the Economics Department office (BAC 338). The workbooks contain practice problems (with accompanying solutions) for most of the chapters covered in the course.

**Quizzes**

During the semester, there will be six quizzes. The quizzes will be based on recent material covered in class. Of the six quizzes, the four highest scores will count towards your final grade. There will be no make-up quizzes offered for any missed quizzes. The quizzes will be made available via ACORN and will be due by the time indicated on the assignment (no late submissions will be accepted).

**Midterm Tests**

There will be two midterm tests in the course. Test 1 will be in class on Mon, Feb 3 and Test 2 will be in class on Wed, Mar 4.

Practice test(s) and a study guide will be provided prior to the tests to facilitate studying. No make-up tests will be provided; the weight of any missed tests will be reassigned to the weight of the final exam in determining your overall grade for the course. Any missed tests must have a legitimate reason approved in advance of the test. The midterm tests and final exam will contain problem-solving questions, as opposed to memorizing definitions and formulae. Tests will be open book/notes and will require the use of a laptop with spreadsheet software.

**Final Exam**

The Final Exam will be scheduled by the Registrar's office. Unless there is a valid reason (*approved in advance*), students are required to take the exam at the time assigned by the University. The Final Exam will cover the entire course. Practice exam(s) and a study guide will be provided in advance.

**Grading**

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|---|---|
| Quizzes (4) | 20% |
| Midterm Tests (2) | 40% |
| Final Exam | 40% |

If your score on the Final Exam is higher than your average score on the Midterm Tests, then the weight of the Final Exam will be increased to 60% and the weight of the Midterm Tests will be decreased to 20%. This reassigning of weights will be done automatically in a manner that maximizes your grade for the course (this adjustment can only increase your overall grade).

The grade scale for the course is as follows:

| Letter Grade | GPA | % Range | Rating |
|---|---|---|---|
| A+ | 4.33 | 95 - 100% | |
| A | 4.0 | 90 - 94% | Excellent |
| A- | 3.67 | 85 - 89% | |
| B+ | 3.33 | 81 - 84% | |
| B | 3.0 | 78 - 80% | Good |
| B- | 2.67 | 74 - 77% | |
| C+ | 2.33 | 70 - 73% | |
| C | 2.0 | 66 - 69% | Average |
| C- | 1.67 | 62 - 65% | |
| D+ | 1.33 | 58 - 61% | |

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|---|---|---|---|
| D | 1.0 | 54 - 57% | Pass |
| D- | 0.67 | 50 - 53% | |
| F | 0.0 | 0 - 49% | Failure |

## Class Material

The following list outlines the material that we will cover in the course, with the class discussions highlighting the most important topics within each chapter:

- Chapter 1: Defining and Collecting Data
- Chapter 2: Organizing and Visualizing Variables
- Chapter 3: Numerical Descriptive Measures
- Chapter 4: Basic Probability
- Chapter 5: Discrete Probability Distributions
- Chapter 6: The Normal Distribution
- Chapter 7: Sampling Distributions
- Chapter 8: Confidence Interval Estimation
- Chapter 9: Fundamentals of Hypothesis Testing: One-Sample Tests
- Chapter 10: Two-Sample Tests and One-Way ANOVA
- Chapter 12: Simple Linear Regression

Class notes will be posted on ACORN prior to each class. The posted class notes may be incomplete relative to the notes presented in class. In the event that you must miss a class, it is recommended that you consult with me or a classmate to obtain any missed notes.

## Class Schedule

The following is a preliminary schedule for the course topics that may be updated as the course proceeds. Readings refer to the textbook and are listed as suggestions to keep you up-to-date with the course; the materials in that day's class may not perfectly coincide with the listed reading. The posted class notes will contain any information about any potential changes to the schedule in advance.

| Class # | Date | Notes |
|---|---|---|
| ⋯⋯⋯⋯⋯⋯⋯⋯⋯ | *Week 1* | ⋯⋯⋯⋯⋯⋯⋯⋯⋯ |
| 1 | Mon, Jan 6 | Discussion of Syllabus |
| 2 | Wed, Jan 8 | Chapter 1 |
| ⋯⋯⋯⋯⋯⋯⋯⋯⋯ | *Week 2* | ⋯⋯⋯⋯⋯⋯⋯⋯⋯ |
| 3 | Mon, Jan 13 | Chapter 2 |
| 4 | Wed, Jan 15 | Chapter 2 |
| ⋯⋯⋯⋯⋯⋯⋯⋯⋯ | *Week 3* | ⋯⋯⋯⋯⋯⋯⋯⋯⋯ |
| 5 | Mon, Jan 20 | Chapter 3 |
| 6 | Wed, Jan 22 | Chapter 3 |
| ⋯⋯⋯⋯⋯⋯⋯⋯⋯ | *Week 4* | ⋯⋯⋯⋯⋯⋯⋯⋯⋯ |
| 7 | Mon, Jan 27 | Chapter 3 |
| 8 | Wed, Jan 29 | Midterm Review |
| - | Fri, Jan 31 | Tutorial 1 |
| ⋯⋯⋯⋯⋯⋯⋯⋯⋯ | *Week 5* | ⋯⋯⋯⋯⋯⋯⋯⋯⋯ |
| 9 | Mon, Feb 3 | Midterm Test 1 |
| 10 | Wed, Feb 5 | Chapter 4 |
| ⋯⋯⋯⋯⋯⋯⋯⋯⋯ | *Week 6* | ⋯⋯⋯⋯⋯⋯⋯⋯⋯ |
| 11 | Mon, Feb 10 | Chapter 4 |
| 12 | Wed, Feb 12 | Chapter 5 |
| - | Fri, Feb 14 | Tutorial 2 |
| ⋯⋯⋯⋯⋯⋯⋯⋯⋯ | *Week 7* | ⋯⋯⋯⋯⋯⋯⋯⋯⋯ |
| - | Mon, Feb 17 | No class |
| - | Wed, Feb 19 | No class |
| ⋯⋯⋯⋯⋯⋯⋯⋯⋯ | *Week 8* | ⋯⋯⋯⋯⋯⋯⋯⋯⋯ |
| 13 | Mon, Feb 24 | Chapter 6 |
| 14 | Wed, Feb 26 | Chapter 7 |
| - | Fri, Feb 28 | Tutorial 3 |
| ⋯⋯⋯⋯⋯⋯⋯⋯⋯ | *Week 9* | ⋯⋯⋯⋯⋯⋯⋯⋯⋯ |
| 15 | Mon, Mar 2 | Midterm Review |
| 16 | Wed, Mar 4 | Midterm Test 2 |

| Class # | Date | Notes |
|---|---|---|
| ......................................... | *Week 10* | ......................................... |
| 17 | Mon, Mar 9 | Chapter 8 |
| 18 | Wed, Mar 11 | Chapter 8 |
| - | Fri, Mar 13 | Tutorial 4 |
| ......................................... | *Week 11* | ......................................... |
| 19 | Mon, Mar 16 | Chapter 9 |
| 20 | Wed, Mar 18 | Chapter 9 |
| - | Fri, Mar 20 | Tutorial 5 |
| ......................................... | *Week 12* | ......................................... |
| 21 | Mon, Mar 23 | Chapter 10 |
| 22 | Wed, Mar 25 | Chapter 12 |
| ......................................... | *Week 13* | ......................................... |
| 23 | Mon, Mar 30 | Chapter 12 |
| 24 | Wed, Apr 1 | Final Exam Review |
| - | Fri, Apr 3 | Tutorial 6 |
| ......................................... | *Final Exam*: TBA | ......................................... |

## Course Policies

Course dates/policies are outlined at the beginning of the course and are the student's responsibility; please communicate any issues, concerns or scheduling conflicts *well before* the relevant deadline so that we can address the issue appropriately. Any requests for re-grading must include a written explanation as to why re-grading is appropriate, and the entire quiz/test/exam will be re-graded (so that the overall grade may increase, decrease, or remain the same). This request must be submitted within one week of the date that the quiz/test/exam was returned in class.

Please communicate with me if an illness or other issue will cause you to miss multiple classes. I expect students to exercise proper classroom etiquette in respect of their classmates and the instructor; while laptops/tablets may be used for note-taking, I ask that you minimize cell phone use in class, as it detracts from the classroom experience (and has been shown to significantly lower students' grades...).

## Accessibility

If you are a student with documentation for accommodations or if you anticipate needing supports or accommodations, please contact Marissa McIsaac, Accessibility Resource Facil-

itator at 902-585-1520, disability.access@acadiau.ca or Emily Duffett, Accessibility Officer, disability.access@acadiau.ca. Accessible Learning Services is located in Rhodes Hall, rooms 111-115.

**Academic Ethics**

It is the responsibility of students to familiarize themselves with the University's policy on academic ethics. Copying, plagiarism and other academic offences will not be tolerated. Penalties are severe and may result in suspension from a program/course and expulsion. A complete list of Academic Regulations can be found on the Policies page of the University's website. I strongly recommend that all class members review the sections in the 2019-20 academic calendar dealing with Academic Policy and Regulations. It is a serious offence to engage in academic misconduct.

*Last updated:* January 2, 2020