Carleton UNIVERSITY
Canada's Capital University

Department of Economics

ECON 2210G

Introductory Statistics for Economics

Winter 2024

Instructor: Jiankang Zhang
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TA: TBA

Classes:
Mondays 10:05-11:25 (Lecture)
Wednesday 10:05-11:25 (Lecture)
Mondays 08:55-09:65 (Tutorial)
Office Hours: 16:10-17:40 (Wednesdays or by appointment)
Log into Carleton Central to view the locations on your timetable

Welcome to ECON 2210: Introductory Statistics for Economics.

Course Description: The course will be delivered in person. Topics include descriptive statistics, elementary probability theory, sampling distributions, estimation and hypothesis testing for one and two population parameters.

Learning Outcomes: This course is an introduction to basic statistical methods for the study of economics.

Preclusions and Prerequisites: ECON 1401 (or equivalent) with a grade of C- or higher; ECON 1402 (or equivalent), which may be taken concurrently with ECON 2210. Students who believe they have taken a similar background course or courses from another university should provide appropriate documentation to the Department of Economics Undergraduate Administrator: economics@carleton.ca to check that credit may be given for all courses.

Precludes additional credit for BIT 2000, BIT 2100 (no longer offered), BIT 2300 (no longer offered), ECON 2200 (no longer offered), ECON 2201 (no longer offered), STAT 2507, STAT 2606, and STAT 3502.

Qualification requirements for higher level courses: A grade of C- or higher is required to qualify for ECON 2220; a grade of C+ or higher is required to qualify for ECON 3900, 3920, 4002, and 4706.

The course consists of lectures three hours a week, tutorials one and a half hours a week.

Textbook

The required textbook for the course is:

Business Statistics: A Decision-Making Approach by David F. Groebner, Patrick W. Shannon, Phillip C. Fry, 10th edition, Pearson

Course Content

- Topic I: Introduction and Descriptive Statistics
  - Chapter 1: The Where, Why, and How of Data Collection
  - Chapter 2: Graphs, Charts, and Tables-Describing Your Data
  - Chapter 3: Describing Data Using Numerical Measures
- Topic II: Basic Probability and Important Distributions
  - Chapter 4: Introduction to Probability
  - Chapter 5: Discrete Probability Distributions (except for the discussion of the Hypergeometric Distribution in Section 5.3)
  - Chapter 6: Introduction to Continuous Probability Distributions
- Topic III: Statistical Inferences Based on Samples
  - Chapter 7: Introduction to Sampling Distributions
    Sections 7.1 and 7.2 only
  - Chapter 8: Estimating Single Population Parameters
    Sections 8.1 and 8.2 only
  - Chapter 9: Introduction to Hypothesis Testing
    Sections 9.1 and 9.3 only
  - Chapter 10: Estimation and Hypothesis Testing for Two Population Parameters
    Sections 10.1, 10.2, and 10.3 only
  - Chapter 11: Hypothesis Testing for One and Two Population Variances
    Section 11.1 only (and only this if time permits)

Data Analysis and Microsoft Excel

The students are assumed to be able to use and access to Excel at home, school, or work. Some problems related the data files included on the web page allow the students to have the opportunity to apply chapter techniques to large blocks of data and use a computer to solve the problems.

Grading Scheme

- The final grade will consist of the following elements weighted as shown:
  1. Three in-class midterm exams 15%, 20%, 25%, respectively
  2. Final exam 40%
- **The pattern of the four exams is**: Midterm I will be the easiest, and the final exam will be the hardest, Midterm II will be harder than Midterm I, and Midterm III will be harder than Midterm II.
- The first midterm examination will be held after finishing Chapter 3. The date could be in week 3 or after.
  The second midterm examination will be held after finishing Chapter 6. The date could be in week 8 or after.
  The third midterm examination will be held after finishing Chapter 8. The date could be in week 10 or after.
- The dates for the midterms will be announced in advance.

- There will be no deferred mid-term exams. If you miss a midterm exam due to an emergency or illness and provide **Self-declaration form** **to me before the midterm takes place for Academic Considerations**, the assigned weight will be added to the final exam. Otherwise you will receive zero marks for it.
- A maximum of one missed midterm is permitted. As a result, a maximum weight of 65% will be given to the final examination.
- DEF(erred final grade) status at the end of this course precludes (continued) registration in any other course for which the former is a prerequisite.
- All midterms are **closed** book examinations and students are **not allowed** to bring in any materials.
- For the final examination, students are **allowed** to bring in one 8½ ×11 inch page of paper with material of their own choosing written on one side. With the exception of the binomial distribution, tables will be provided for all the examinations.
- The final exam will be **cumulative** and cover the **entirety** of the course material.
- All the midterms and the final will be in person.
- The final examination will be a three-hour in-person examination, scheduled by the Scheduling Office.

Satisfactory Performance Criteria: Students must fulfil all of the preceding course requirements in order to achieve a passing grade (D- or higher). Failure to write the final examination when the student has achieved satisfactory performance during the term will result in a grade of 'F' until an appeal to write the deferred final exam in January 2024, if granted by the Registrar's Office. A change of grade will be submitted when the deferred final exam has been written and the marks are available. See Academic Regulation 2.3 for the official meanings of the grades, and note that it stipulates that no course grades are final until approved by the Faculty Dean. Application to write a deferred final examination must be made at the Registrar's Office in writing no later than three working days after the original final examination was scheduled.

Tutorial Groups: Weekly tutorials will be conducted. The TA will show the students the applications of concepts and theories presented in classes step by step by using some examples.

Practice Problems: Students are encouraged to work through as many textbook problems as possible, since these are the best way to learn the course and prepare for the exams as well. Moreover, I will provide four sets of practice problems.

Brightspace and the Carleton email system will be used extensively as a means of communication with students. Therefore, students are strongly advised to access Brightspace and check their Carleton email at regular intervals in order to check for new information. To access Brightspace and the Carleton email system, students require a MyCarletonOne account. For questions about MyCarletonOne accounts, students should access http://carleton.ca/ccs/get-started/ (and then click on either New Students or New

Grad Students, as appropriate) or contact the ITS Service Desk (4th Floor, MacOdrum Library, telephone: 613-520-3700).

Plagiarism: You are responsible for reading and knowing the information about plagiarism, Carleton University resources, and academic accommodations found HERE. Use of ChatGPT and other generative AI is prohibited.

Requests for Academic Accommodation: You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

Pregnancy obligation: Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: **carleton.ca/equity/wpcontent/uploads/Student-Guide-to-Academic-Accommodation.pdf**

Religious obligation: Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: **carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf**

Academic Accommodations for Students with Disabilities: If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. **carleton.ca/pmc.**

If you have any problems and questions, please do not hesitate to ask me for help.