Faculty of Liberal Arts and Professional Studies

Department of Economics

YORK U

# ECON 2500 (B): Introductory Statistics for Economists I

Course outline (Fall semester, 2023)

## Instructor

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## Schedule

Lectures: Tuesdays and Thursdays, 13:00-14:30 (room DB 0006)
Office hours: TBA

## Teaching assistants

TBA (information will be updated soon)

## Course description

This is an introductory course in applied statistics. The course will familiarize students with the fundamental concepts, principles and methods of basic probability and statistical analysis, and will cover foundations for statistical inference. The course is intended to help students to achieve a basic statistical literacy and develop "statistical thinking". Students will learn how to conduct empirical analysis using statistical methods, extract and interpret quantitative information from data.

## Course organization

There will be two 90-min lectures per week. Classes on Tuesdays will mostly consist of course material introduction, while classes on Thursdays will be slightly more focused on examples and practical exercises.

All relevant course materials, as well as course updates, will be uploaded on the eclass course page.

### Evaluation

The total final grade (100%) will consists of

- 2 problem sets (20%)
- midterm exam (30%)
- final exam (50%)

A grade conversion scale will be announced soon.

**Important:** there will be no make-ups for the midterm exam (30% weight will be shifted to the final exam, and, in case the midterm is missed, the weight of the final exam will be 80%). Late submissions of problem sets will be penalized.

### Textbooks

- Main textbook: Richard D. De Veaux, Paul F. Velleman, David E. Bock, Augustin M. Vukov, and Augustine Wong, "Stats: Data and Models", *4th Canadian Edition, Pearson*
- Optional (but highly recommended): David Diez, Mine Cetinkaya-Rundel, and Christopher Barr, "OpenIntro Statistics", *4th Edition*

  [pdf version can be freely downloaded at www.openintro.org/book/os/]
- Optional (also a very good choice): David S. Moore, George P. McCabe, Bruce A. Craig , "Introduction to the Practice of Statistics", *10th Edition*

### Add/Drop deadlines

Last date to add to the course (with permission of instructor): September 20 (September 28)
Last date to drop the course without receiving a grade: November 8
Course withdrawal period (with grade "W" on transcript): November 9 - December 5

### Attendance policy

Attendance is expected, but not strictly mandatory. Constructive in-class participation (active participation in dicsussions, answering questions, etc.) will be rewarded by adding an extra bonus to the final grade (up to 5%, mostly relevant for the cases with a "border" grade).

### Updates and announcements

Regular course updates are expected to be made on Thursdays. Important extra announcements may be sent out during the week.

**Important:** It is students' responsibility to be aware of any policy (or schedule change). If you miss classes, check if any schedule or policy changes were announced.

## Course contents and schedule

| week | sections | topics | reading (SDM) | reading (OpenIntro) |
|---|---|---|---|---|
| 0 | Introductory class | course organization, Q&A | | |
| 1-3 | Introduction to data | types of variables, methods for describing datasets and visualization of data, relationship between variables, summarizing data | 1, 2, 3, 5, 6 | 1.1, 1.2, 2 |
| 4-7 | Random sample, probability and random variables | population vs sample, concept of probability and some important rules, random variables, pobabilty and sample distributions | 9, 11, 12, 13, 14 | 1.3, 1.4, 3 |
| 6 or 7 | Midterm | | | |
| 8-11 | Foundations for statistical inference: confidence intervals and hypothesis testing | point estimates and its variability, central limit theorem, inference for proportions, inference about means, inference based on two samples | 15, 16, 17, 18 | 5, 7.1, 7.2, 7.3 |
| TBA | Final Exam | | | |

Some changes in the schedule are highly possible, as well as minor adjustments of the course content and selected topics. Chapter numbers in the right columns point on the textbook material related to the corresponding topics, and may vary depending on the textbook edition.

## Exam policy (Midterm and Final)

Both exams are closed book, independent work is required for all exams. All instances of academic dishonesty in this course will be reported to the appropriate university authorities and can be punishable according to the Senate Policy on Academic Honesty.

You may submit a request to have your term tests re-checked or final exam re-graded. Quiz and midterm re-check requests need to be sent to the instructor or TA within one week of grade release. In your written request, you must identify the questions and the possible errors and/or omissions.

Re-grading of your test will be done in a manner consistent with the rest of the class. A re-check or regrade may result in a raised mark, lowered mark, or no change. In the process, the instructor has the authority to re-grade other questions on the exam if they find it necessary to do so.