Carleton University
Department of Economics

ECON 2210 A
Statistical Methods in Economics and Business I
2018 SUMMER

Instructor: Valerie Rochester

Classes: Tuesdays & Thursdays, 18:05-20:55
Tutorials: Thursdays, 16:35 – 17:55

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E-mail: valerie.rochester@carleton.ca Please use your Carleton email account for all course related
electronic communication.
TA: TBA

Calendar Description
Basic statistical methods for the study of economics. Topics include descriptive statistics, elementary
probability theory, sampling distributions, estimation and hypothesis testing for one and two population
parameters.

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.

Prerequisite(s): ECON 1401 (or equivalent) with a grade of C- or higher; ECON 1402 (or equivalent),
which may be taken concurrently with ECON 2210.

*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.

DEF(ferred final grade) status at the end of this course precludes (continued) registration in any other
course for which the former is a prerequisite.

Shannon, Phillip C. Fry 10th edition, Pearson

Course Outline
I: Descriptive Statistics and Basic Probability
    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
    Chapter 4: Using Probability and Probability Distributions

II: Important Probability Distributions
    Chapter 5: Discrete Probability Distributions (except for the discussion of the
    Hypergeometric Distribution in Section 5.3)
    Chapter 6: Introduction to Continuous Probability Distributions

III: Statistical Inferences Based on Single 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
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 in the final assignment will allow the students to have the opportunity to apply chapter techniques to and use a computer to solve the problems.

All relevant materials such as notes, slides, practice assignments, and solutions will be posted to cuLearn. "All materials created for this course (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author.”

NOTE:
For verification and security purposes, I will not reply to emails originating from non-Carleton e-mail accounts, and which are not signed with a student’s name and student number. Assignments and changes to schedules will be made available on cuLearn only. Please ensure that you have a Carleton email account.

Tutorials
Tutorials will be held prior to each class beginning on May 10. During these tutorials additional examples and problems related to the current topic will be presented and solved. In addition any questions on the material may be raised.

Course Evaluation

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Two 80-minute in class tests worth 20% each</td>
<td>40%</td>
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<tr>
<td>One hand-in assignment</td>
<td>15%</td>
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<tr>
<td>Final Examination – 3 hours (to be scheduled by the University)</td>
<td>45%</td>
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<td>100%</td>
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****IMPORTANT EVALUATION CRITERION PLEASE READ CAREFULLY****

Tests will be held in class and will last 80 minutes. There are no deferred tests. For students who can document a compelling reason for missing a test within one week of the missed test, the assigned weight of 20% will be added to the weight of the final exam; otherwise a mark of zero is assigned. Only ONE test will be treated in this way as the maximum weight of the final exam will be 65%.

A maximum weight of 65% will be given to the final examination in the event that a test is missed and valid documentation is provided.

Students must fulfil all of the preceding course requirements in order to achieve a passing grade (D- or higher).
Failure to receive a passing grade on the average of the tests, or failure to submit the final assignment will result in a grade of ‘F’ until an appeal to write the deferred final exam in June 2018 is granted. 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 these grades, and note that it stipulates that no course grades are final until approved by the Faculty Dean. Note also that course grades may be scaled upwards or downwards in a rank-preserving manner to better fit the relevant departmental distributional norm. Application to write a deferred final examination must be made at the Registrar’s Office.
The final date to register in this course is May 14, 2018. The final date to withdraw from this course with a fee adjustment is May 25, 2018. The final date to withdraw from this course without academic penalty is June 19, 2018.

**Two Tests (Total 40%)**

The following references are expected to hold, however if for any reason a topic is not completed prior to the test, you will be informed through cuLearn of the change and you will be responsible ONLY for what has been covered in class.

**TEST 1:** Tuesday, May 22 – Chapters 1-5
**TEST 2:** Thursday, June 7 – Chapters 6-9

Practice questions and solutions are posted on cuLearn before each test, and reflect the type of questions you can expect. Study groups are useful to discuss solutions.

**Assignment (15%) – due in class by 8:00 pm Tuesday, June 19, 2018 OR EARLIER**

**NO LATE ASSIGNMENTS WILL BE ACCEPTED**

The assignment will be posted on cuLearn, will cover all the course material, and is due in class on **Tuesday, June 19, 2018 by 8:00 pm or earlier**. The assignment may be submitted to me before the final class. Failure to submit this assignment results in an FND in the course. Please keep a copy of your assignment, as your graded assignment may not be available for pick-up prior to the final examination. Students may wish to work together on assignments, but each student must submit his/her assignment independently.

**Final Examination (45%)**

The final exam covers the entirety of the course material – Chapters 1-11 (if all material is covered), lasts 3 hours, and will be scheduled by the University to take place during the official final examination period. Failure to write the final examination results in a grade of ABS (provided you have met the conditions described in the EVALUATION CRITERION above). In order to write a deferred final exam, students must contact the Registrar’s Office.

**Course Standing**

Standing in a course is determined by the course instructor subject to the approval of the Department Chair and the Faculty Dean. This means that course grades may be scaled upwards or downwards in a rank-preserving manner to better fit the relevant departmental distributional norm. No grades are final until they have been approved by the Dean.

**Plagiarism**

Please be aware that plagiarism is a serious offense and one that should be recognized and avoided. Please see “Pamment on Plagiarism and Paraphrasing” at www.carleton.ca/economics/courses/writing-preliminaries.
Academic Accommodation

For Students with Disabilities:
Students with disabilities requiring academic accommodations are encouraged to contact a coordinator at the Paul Menton Centre for Students with Disabilities (ext. 6608) to complete the necessary letters of accommodation. After registering with the Centre, please set up an appointment with me to discuss your needs at least two weeks prior to a test or in-class mid-term exam. This is necessary in order to ensure sufficient time to make the necessary arrangements.

For Religious Observance:
Students requesting academic accommodation on the basis of religious observance should make a formal, written request to their instructors for alternate dates and/or means of satisfying academic requirements. Such requests should be made during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist, but no later than two weeks before the compulsory academic event. Accommodation is to be worked out directly and on an individual basis between the student and the instructor(s) involved. Instructors will make accommodations in a way that avoids academic disadvantage to the student.

Students who have questions or want to confirm accommodation eligibility of a religious event or practice may refer to the Equity Services website for a list of holy days and Carleton’s Academic Accommodation policies, or may contact an Equity Services Advisor in the Equity Services Department for assistance.

For Pregnancy:
Pregnant students requiring academic accommodations are encouraged to contact an Equity Advisor in Equity Services to complete a letter of accommodation. The student must then make an appointment to discuss her needs with the instructor at least two weeks prior to the first academic event in which it is anticipated the accommodation will be required.