CONCORDIA UNIVERSITY
Department of Economics

ECON 221/2 SECTIONS A, B, C and D
STATISTICAL METHODS I[1]
FALL 2019

	SECTION A	SECTION B
Instructor:	**Georgi Boichev**	**Muntasir Chaudhury**
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Office Hours:	**TJ 13:30 – 15:00**	**F 11:45 – 13:00**
Lecture Hours:	**TJ 16:15 – 17:30 (H 920)**	**F 08:45 – 11:30 (MB S1.401)**
Course ID:	**boichev75183**	**chaudhury83766**
	SECTION C	**SECTION D**
Instructor:	**Kamal Benchekroun**	**Georgi Boichev**
Office:	**H 1150**	**H 1155.33**
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Office Hours:	**J 14:45 – 16:15**	**TJ 13:30 – 15:00**
Lecture Hours:	**TJ 13:15 – 14:30 (H 820)**	**J 18:00 – 20:15 (H 620)**
Course ID:	**benchekroun23323**	**boichev22676**

Course Description:
This course is an introduction to the statistical procedures commonly employed by economists and is required for students majoring in economics. Topics include probability and probability distributions, discrete and continuous random variables, descriptive statistics, sampling distributions, statistical estimation and confidence intervals.

Course Prerequisite:
CEGEP Mathematics 311, MATH 201, MATH 206 or equivalent.

Course Antirequisites:
BIOL 322, COMM 215, DESC 244, ENGR 371, GEOG 362, INTE 296, MAST 221, MAST 333, PSYC 315, PSYC 316, SOCI 212 and 213, STAT 249 or STAT 250

Course Objectives:
This course introduces students to the rudiments of probability theory and statistical methods and their application in the presentation and evaluation of economic models and practical situations. Probability and statistics are particularly relevant in applied economics where conclusions must be drawn with incomplete information. Indeed, the primary focus of the course is on *statistical inference*: the theory, methods and practice of forming judgments about the parameters of a population and the reliability of statistical relationships on the basis of data or sample information. Statistical methods are illustrated with the aim of facilitating the presentation, organisation and preliminary analysis of data.

Coordination:
ECON 221 is coordinated across all sections in terms of course content, pace of coverage, labs and exams.

[1] Every effort has been made to ensure the accuracy of the information contained in this course outline. Nonetheless, the information in this course outline is subject to change. Announcements will be made in class and/or Moodle.

Required Online Text and Labs:
Newbold et al. *Statistics for Business and Economics, 8th Edition*. Pearson, 2012.

- Students purchase access to the online book and MyLab at www.pearsonmylabandmastering.com/northamerica/myeconlab/students/get-registered/index.html

Grade Evaluation:

COMPONENT	WEIGHT	DESCRIPTION
Labs (8)	20 percent	Due Sundays before 11:59pm starting September 22
Midterm 1	20 percent	Chapters 1 – 3 (Sunday, October 20, 15:00 – 17:00)
Midterm 2	20 percent	Chapters 4 – 5 (Sunday, November 10, 15:00 – 17:00)
Final Exam	40 percent	Chapters 1 – 8

Labs:
There are eight MyLab labs, each worth 2.5 percent. These labs are very similar to the more traditional, hardcopy assignments that students would submit to instructors. The purposes of the labs are to: (1) reinforce material covered in class; (2) teach material for which there is insufficient time in class; (3) keep students on track with course learning objectives; and, (4) provide students with immediate evaluation and feedback.

Students can access the labs at http://portal.mypearson.com/mypearson-login.jsp after they have purchased the access code and registered in the appropriate section. Labs are due Sundays at 11:59pm. The time is based on MyLab's clock. The best way to avoid missing deadlines is to do the labs ahead of time, not just prior to the deadline.

Lab extensions are granted only for medical or technical reasons. Medical reasons require a doctor's note. Technical problems and questions should be addressed directly to MyLab (https://support.pearson.com/getsupport/s/) and not the instructor.

Format of the Labs:

- Each lab consists of some multiple-choice, graphical, numerical and conceptual questions. You receive immediate evaluation and feedback after your submission.
- MyLab questions are based on computer algorithms. This means that every time a lab is attempted, the parameters (numbers, wording) of the questions may differ. Hence, no two students will have identical questions, but rather, they will have similar questions.
- Labs have a preset amount of time to finish (eg, 10 minutes per question or 60 minutes per lab).
- The labs are open at all times and each question can be attempted up to three times. The grade on the BEST attempt at the Sunday deadline will be recorded.
- After the deadline, the labs are still available but no grades from those attempts are recorded.

Exams:
There are two midterm exams written outside of class time (Sunday, October 20 and Sunday, November 10) and one final exam written during the final exam period. While the instructor will announce the date, time and location of the final exam, the student is ultimately responsible for ensuring the accuracy of the information. Missing a midterm for a valid and documented reason results in shifting its weight to the final exam.

The midterm and final exams are identical across all sections. The final exam is cumulative (ie, it covers everything from the beginning of the course), while the midterm exams only cover material from the first and second thirds of the course, respectively (see *Lecture Schedule & Assigned Readings*).

All exams consist of problem questions that may involve algebra, equations, graphing and interpretation. Students may use non-programmable calculators. The appropriate statistical tables will be provided along with the exam. Any other study aides are prohibited.

Tutorials:
Weekly online tutorials (webinars), covering problems and multiple-choice questions similar to previous exams and taught by graduate students in the department, replace the traditional in-class tutorial. All webinars are archived on Moodle.

All tutorial questions are posted on Moodle and all tutorial answers are available only through watching the webinars. Ideally, students should try to answer the questions themselves in advance.

Grade Criterion:

A+	90 – 100	4.3	B+	77 – 79	3.3	C+	67 – 69	2.3	D+	57 – 59	1.3	FNS	00 – 49	0.0
A	85 – 89	4.0	B	73 – 76	3.0	C	63 – 66	2.0	D	53 – 56	1.0	DNW		
A-	80 – 84	3.7	B-	70 - 72	2.7	C-	60 – 62	1.7	D-	50 – 52	0.7	NR		

Grade Distribution:
It is the policy of the Department of Economics that courses at the 200-level should not have more than half of the class receiving grades of A's and B's without "serious reflection".

Study Group Sessions:
Student Learning Services organises study groups for students enrolled in ECON 221. Students attending the groups can review course content, work on sample problems together and review prerequisite material needed to succeed in economics. Students who have had previous success in the courses run these groups. Schedules are available on Moodle.

Private Tutors:
Students are advised that the Department of Economics does not support and cannot guarantee the quality of any private tutoring service offered by outside institutions. Students are encouraged to use caution and should be aware that they enrol in such services at their own risk.

Correspondence:
All correspondence in this class will be directed through Concordia email addresses *only*. Any email coming from any other address will be directed to spam directly and will neither be read nor answered. If you have not activated your account already, please follow the instructions at http://www.concordia.ca/it/services/email-for-students-office-365.html.

Student Responsibilities:
Students are expected to be aware of their academic responsibilities as outlined in the Code of Rights and Responsibilities (www.concordia.ca/students/rights.html).

Lecture Schedule & Assigned Readings (Sections A and C):

DATE	EVENT	COVERAGE
September 3	Introduction	—
September 5	Math Review	—
September 10	Math Review	—
September 12	Describing Data: Graphical	Chapter 1
September 17	Describing Data: Graphical	Chapter 1
September 19	Describing Data: Numerical	Chapter 2
September 22	LAB 1 DUE	Chapter 1
September 24	Describing Data: Numerical	Chapter 2
September 26	Probability	Chapter 3
September 29	LAB 2 DUE	Chapter 2
October 1	Probability	Chapter 3
October 3	Probability	Chapter 3
October 8	Discrete Random Variables and Probability Distributions	Chapter 4
October 10	Discrete Random Variables and Probability Distributions	Chapter 4
October 13	LAB 3 DUE	Chapter 3
October 15	Discrete Random Variables and Probability Distributions	Chapter 4
October 17	Continuous Random Variables and Probability Distributions	Chapter 5
October 20	MIDTERM 1 (15:00 – 17:00, A: MB S2.210, C: MB S2.330)	Chapters 1 – 3
October 20	LAB 4 DUE	Chapter 4
October 22	Continuous Random Variables and Probability Distributions	Chapter 5
October 24	Continuous Random Variables and Probability Distributions	Chapter 5
October 29	Sampling and Sampling Distributions	Chapter 6
October 31	Sampling and Sampling Distributions	Chapter 6
November 3	LAB 5 DUE	Chapter 5
November 5	Sampling and Sampling Distributions	Chapter 6
November 7	Estimation: Single Population	Chapter 7
November 10	MIDTERM 2 (15:00 – 17:00, A: MB S2.210, C: MB S2.330)	Chapters 4 – 5
November 10	LAB 6 DUE	Chapter 6
November 12	Estimation: Single Population	Chapter 7
November 14	Estimation: Single Population	Chapter 7
November 19	Estimation: Additional Topics	Chapter 8
November 21	Estimation: Additional Topics	Chapter 8
November 24	LAB 7 DUE	Chapter 7
November 26	Estimation: Additional Topics	Chapter 8
November 28	Review	Chapters 1 – 8
December 1	LAB 8 DUE	Chapter 8
TBD	FINAL EXAM	Chapters 1 – 8