

Econ 221-002 Statistics for Economists

Instructor: Dr. Zhen He

Spring 2016

Lectures: Tuesday & Thursday 10: 00 am-11: 20 am in AL 211

Office: HH 162

Office hours: Thursday 11:45 pm-1:15 pm

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COMMUNICATION

When sending email to me, please always use your UW email account. Put “ECON 221” in the subject line and include your full name and student ID in the message.

Please use emails for administrative matters only. I will be available during office hours to discuss course material.

Office hours for this term starts May 2nd and ends July 26th. Office hours for the Final Exam Period will be announced at the end of July.

COURSE OUTLINE

This course outline will be available at two locations for the duration of the term:

1. Department of Economics website
2. LEARN website

COURSE DESCRIPTION

This course introduces students to basic concepts and techniques of modern statistics. We will learn tools to process, summarize, analyze, and interpret sample data and make well-reasoned claims about an unobserved population. Main topics include a) probability, b) random variables and their properties, and c) the application of these tools to statistical inference. This course will be problem driven.

COURSE GOALS & LEARNING OUTCOMES

Upon completion of this course, student will obtain:

- a basic literacy with regard to statistical techniques and data analysis;
- familiarity with the use of probability theory in modeling random events.

COURSE MATERIAL

Paul Newbold, William L. Carlson, and Betty M. Thorne, **Statistics for Business and Economics**, 8th edition, (Toronto: Pearson Education Inc., 2013).

TENTATIVE COURSE OUTLINE

Week	Topic	Chapter
May 3	Introduction	
May 5	Describing Data: Graphical	Ch.1: 1.1 ~ 1.3, 1.5
May 10, 12	Describing Data: Numerical	Ch. 2
May 12 ~ 19	Probability	Ch. 3: 3.1 ~ 3.3, 3.5
May 24, 26	Discrete Random Variables and Probability Distributions	Ch. 4: 4.1 ~ 4.5
May 31	Midterm I	
June 2	Discrete Random Variables and Probability Distributions	Ch. 4: 4.7
June 7 ~ June 14	Continuous Random Variables and Probability Distributions	Ch. 5: 5.1 ~ 5.3, 5.5, 5.6
June 16, 21	Sampling and Sampling Distributions	Ch. 6: 6.1 ~ 6.4
June 23, 28	Estimation: Single Population	Ch. 7: 7.1 ~ 7.5
June 30	Midterm II	
July 5 ~ July 14	Hypothesis Testing	Ch. 9; Ch. 10: 10.1~10. 2
July 19, 21	Simple Regression	Ch. 11 (if time allows)
July 26	Review	

- Course materials (e.g. lecture slides, assignments, midterm solution keys, practice problem sets) will be posted on the LEARN website <http://learn.uwaterloo.ca>
The LEARN site is down occasionally. Save the course materials to your computer as soon as they are posted. Check LEARN daily. You are responsible for making yourself aware of any changes made to the course by checking LEARN daily.
- Economics Clinic: The department offers free tutorial services to students taking Econ221 in a walk-in Economics Clinic. Details will be available from LEARN.

EVALUATION

The final grade for the course will be determined according to the following formula:

Assignments (3)	15 %
Midterm I	20 %
Midterm II	20 %
Final exam	45 %

- Assignments and due dates will be posted on Learn. The assignments can be written either alone or in a group of three students (maximum). If writing the assignments in a group, each group can only submit **one copy** of assignment. The submitted assignment must contain a title page with every member's full name and student ID number **clearly print** on it. Assignments will be due in class. No late assignments are accepted.

EXAMS

Exams	DATE
Midterm I	May 31 st , 2016 in class (Tuesday)
Midterm II	June 30 th , 2016 in class (Thursday)
Final Exam	Exam Period (scheduled by Registrar's Office)

ATTENTION

- The format for both midterms and the final exam will be multiple-choice questions and short answer questions. Midterm marks will be posted on LEARN. Only the Registrar's Office can issue final grades.
- Schedule and location of the final exam will be announced by the Registrar Office. Please visit <http://registrar.uwaterloo.ca/exams/index.html> for further details later in this term. Travel plans are NOT a sufficient reason to have a final exam deferred.
- Requests for accommodation based on religious holiday must be submitted to the Associate Dean.
- **Midterm II is not cumulative. The final exam is cumulative.**
- Combination of particular distribution and absolute measures will be used to determine the course grades. The university grading system will be relied on as benchmark.
- No programmable (graphing) calculator or electronic devices are allowed during the tests. You are required to have your student ID with you for all exams. Random checks may be made during exams.

EXAMINATION POLICY

Missing a Midterm Due to Illness During the Term

- **No make-up midterm is provided.** Missing a midterm will automatically result in a grade of zero for that midterm. If the illness can be documented with a **UW Verification of Illness Form** (the only acceptable document), with approval you

may transfer the weight of the missed midterm to the final exam. This remedy is a privilege and not a right.

- The midterm exam schedule has been set and will not be changed for whatever reason.

Missing the Final Exam Due to Illness

- Missing the final exam is a very serious matter which automatically results in a grade of zero for the final exam and possibly a failing grade for the course. Please carefully read the Economics Department policy on deferred final exams for instructions.
- The Deferred Exam Policy is listed on the Department of Economics website at <https://uwaterloo.ca/economics/current-undergraduates/policies-and-resources/deferred-final-exam-policy>
- No deferred final exam will be provided for students who missed all the exams (including the final exam) in this course.

Submission of Exam Papers

- Late submission of exam papers is not accepted and missed submissions will receive a zero mark for whatever reason.
- Exam papers must be submitted in whole and on time in the exam room.

Exam papers

- a. not submitted on time,
- b. submitted with missing pages,
- c. submitted elsewhere, with the exception of students with permission to write in the AS Office,
- d. not received at all

will receive a grade of zero for whatever reason.

- It is the responsibility of students to ensure that they write exams in the location, date, and time assigned to their section. Students writing exams in the wrong section will be assessed a **20%** penalty on the final exam grade. There will be no accommodation for possible differences in exam material or content.

OTHER NOTES

Electronic Device Policy

Cell phones must be turned off or muted for the duration of the lecture. • Laptop/tablet may only be used to view lecture material.

Attendance Policy

Class attendance is an integral part of your educational experience. While attendance is not a graded component of this course, it is an important factor in ensuring your complete understanding of the material presented. You are responsible for all material presented in the scheduled lecture periods whether you choose to attend lectures or not.

Classroom Protocols

The highest level of courtesy and professional behaviour are expected from every student. In particular, be punctual and turn off all audible ringers on all devices during class. As a courtesy to the custodial staff, if you have coffee, water, etc., please dispose of your garbage when you leave the classroom.

Institutional-required statements for undergraduate course outlines approved by Senate Undergraduate Council, April 14, 2009

Economics Department Deferred Final Exam Policy

Deferred Final Exam Policy found at <https://uwaterloo.ca/economics/current-undergraduates/policies-and-resources/deferred-final-exam-policy>.

Cross-listed course

Please note that a cross-listed course will count in all respective averages no matter under which rubric it has been taken. For example, a PHIL/PSCI cross-list will count in a Philosophy major average, even if the course was taken under the Political Science rubric.

Academic Integrity

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo are expected to promote honesty, trust, fairness, respect and responsibility.

Discipline: A student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to [Policy 71 - Student Discipline](https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-71) (https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-71)

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read [Policy 70 - Student Petitions and Grievances](https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-70) (<https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-70>), Section 4.

Appeals: A student may appeal the finding and/or penalty in a decision made under Policy 70 - Student Petitions and Grievances (other than regarding a petition) or Policy 71 - Student Discipline if a ground for an appeal can be established. Read [Policy 72 - Student Appeals](https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-72) (<https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-72>).

Other sources of information for students:

[Academic Integrity website \(Arts\)](https://uwaterloo.ca/arts/current-undergraduates/student-support/ethical-behaviour)

<https://uwaterloo.ca/arts/current-undergraduates/student-support/ethical-behaviour>

[Academic Integrity Office \(UWaterloo\)](https://uwaterloo.ca/academic-integrity/)

<https://uwaterloo.ca/academic-integrity/>

Accommodation for Students with Disabilities

Note for students with disabilities: The [AccessAbility Services](https://uwaterloo.ca/disability-services) office (<https://uwaterloo.ca/disability-services>), located on the first floor of the Needles Hall extension (NH 1401), collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the AS office at the beginning of each academic term.