

University of Waterloo

Course Outline

Term & Year:

Spring 2012

Course Number & Title:

ECON 221-002, Statistics for Economists (Section 2)

Lecture Times, Building & Room Number:

MW 10:00–11:20, HH 1101

Instructor's Name, Office Location, Office Hours, Contact:

Prof. Nguyen, HH 202, MW 11:30–12:50, 519-888-4567 ext 32794,

eco221.uw@gmail.com (bookmark this; email to other addresses might be filtered and junked)

TA's Name, Office, Office Hours: TBA (details on LEARN)

Where to find this course outline:

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

(a) Department of Economics website <http://economics.uwaterloo.ca/ug-courseschedule.htm>

(b) LEARN web site <http://learn.uwaterloo.ca/> (use WatIAM/Quest username and password)

1. Course Description

This course introduces students to basic concepts and techniques of modern statistics. There are four basic components: data, probability, statistics, and econometrics. Students will learn basic statistical procedures commonly used in economics. The teaching approach is problem-solving designed to help students develop the necessary quantitative skills in “thinking statistics” and apply theory to simple examples. These skills take time to develop and students are expected to fully participate in all class activities including attendance, discussions, readings, exercises. Computer is an important teaching tool and integrated part of the course.

2. Course Objectives

At the end of the course, students should be able to

- acquire a basic skill set of tools and techniques of economic statistics covered in the course,
- formulate and solve basic problems in economic statistics,
- perform common basic tasks in economic statistics with or without computers, and
- develop a feel for the close relationship between economics and statistics.

3. Required Texts

Statistics With Shazam (5th edition, 2012) is available from UW BookStore. Older versions will not be used. The library has indicated that, under its Collection Development Policy, the library does not purchase undergraduate textbooks for students.

The course software “Shazam Econometrics Software” (v10 pro) on Arts Nexus will be used for course work. Registered students can have the software at no cost to do course work on their own computers (details in class). The software is for Windows but students have been able to run it on Mac (under Bootcamp) and Linux (under Wine) machines. Prior knowledge of the software is not assumed and instructions will be given in class as needed (regular class attendance is essential). Students will learn to use the software and build a basic skill set in economic statistics which could be handy for co-op jobs.

4. Topics

The following table shows the linkage of four subjects, namely, probability, statistics, econometrics, and Shazam software to be covered in the course. Some adjustments might be needed to suit student progress, background, and interest. If time permits, additional topics (e.g., statistical organizations, conditional expectations, Chi-squared and F distributions, P-values) will be given in class.

Probability	Statistics	Econometrics	Shazam
1. Introduction			
			3. Shazam basics
	2. Descriptive statistics		4. Descriptive statistics with Shazam
5. Probability basics			
6. Probability rules			
7. Expectations			
8. Variances			
9. Binomial distribution			Binomial distribution with Shazam
10. Normal distribution			Normal distribution with Shazam
11. Central limit theorem			Central limit theorem with Shazam
	12. Sampling distribution		Sampling distribution with Shazam
	13. Statistical estimation		Statistical estimation with Shazam
	14. Testing hypotheses		Testing hypotheses with Shazam
		15. Simple regression	Simple regression with Shazam
		16. Statistical analysis of regression	Statistical analysis of regression with Shazam
		17. Multiple regression	Multiple regression with Shazam

5. Assessments

The mark breakdown is as follows:

class attendance	2%
exercises/online quizzes	10%
two midterms	30%
final exam	58%

The marking system is designed to promote regular study habit, time management skill, work ethics, and active learning experience (rather than short-term exam cramming). It also allows learning from errors and mistakes by focusing less on mistakes made earlier in the term.

1. Regular class attendance is required. Students are expected to (a) attend all class meetings, (b) remain in class for the while the whole class period, and (c) maintain proper classroom behavior. Casual presence (e.g., reading newspaper or email, chatting during lectures, study other courses in class, sign attendance records and leave) does not count and is treated as absence. Students who miss classes for whatever reasons are responsible to catching up with course materials on their own. Class handouts are distributed in classes only. Students should always sign the same way on the attendance records. Signing for someone else is cheating.
2. Quizzes and exercises are good learning tools to keep students on track with course work, monitor progress, and help detect warning signs of potential difficulties. Online quizzes are most effective if done with closed books and no collaboration. One quiz with the lowest mark will be dropped.
3. Exercises are small problems to be done regularly before classes. They are good training tools for building active learning and problem-solving skill (don't come to class unprepared, empty-handed, and expecting answers to be readily given). The idea is to keep working during the term, avoid procrastination, and allow time for skill development.
4. Both midterms are in-class, up to 1½ hrs, closed-book (bring calculator, no sharing). These dates will not be changed. The midterms together are worth 30% with the following mark breakdown: the midterm with lower marks is worth 10% and the midterm with higher marks is worth 20%.
5. The final exam is scheduled by the Registrar's Office for 2½ hrs, closed-book (bring calculator, no sharing). This date will not be changed. The exam is *comprehensive* which means that it covers the entire term and all course materials (text, lectures, Shazam, etc).

6. Important Dates

Wed	May 2	first class
Mon	May 21	last day to drop without penalty (will get a WD after this date)
Mon	May 21	Victoria Day (university closed)
Tues	May 22	make up class, monday schedule, same time/room (don't skip)
Mon	May 28	no class (room booked for CHSS congress meetings)
Wed	May 30	no class (room booked for CHSS congress meetings)
Wed	Jun 6	midterm 1
Mon	Jul 2	Canada Day (university closed)
Wed	Jul 4	make up class, monday schedule, same time/room (don't skip)
Mon	Jul 9	midterm 2
Mon	Jul 9	last day to drop with a WD (will get a WF after this date)
Thu-Sun	Jul 26-29	study days
Mon-Fri	Jul 30-Aug 10	final exam period

7. Rules & Procedures

1. Missing the Final Exam Due to Illness
Missing the final exam is a very serious matter which automatically results in a zero mark for the exam itself and possibly a failing mark for the course. In case of illness, make sure that you read the Department of Economics policy at <http://economics.uwaterloo.ca/DeferredExams.html> and follow the instructions very carefully.

2. Missing a Midterm Due to Illness During the Term

By default, the computer automatically assigns zero marks for all missing required course work. In case of illness, an option, at the instructor's discretion, may include a manual override to shift the weight of the missed work to the final exam. Note that this option is a privilege granted on compassionate ground, not a right. Requests are not automatically approved even with a doctor's note. Read the following instructions carefully:

- print and complete the Special Request Form (SFR) on LEARN
- have your doctor complete the UW Verification of Illness Form (VIF) (the only acceptable proof) http://www.healthservices.uwaterloo.ca/Health_Services/verification.html
- submit both forms to the instructor within five (5) school days of the missed course work
- if approved, the weight of the missing work will be shifted to the final exam

Note that

- records of class attendance and other course work will be a factor in the decision,
- only one missing midterm (weight 15%) can be requested (you can't skip both midterms),
- missing classes, online quizzes, exercises are not considered (if you miss it, you miss it).

3. Rules on Fee-Arranged Issues

Students are responsible for all administrative matters concerning their course registration (e.g., fee-arrangements). No make-up course work and/or remedies will be given for losses of access to LEARN and academic consequences arising from administrative issues with the Registrar's Office.

4. Rules on Late Submission

Late submission will not be accepted and missed submission will receive zero marks.

- For online testing, the computer usually gives warnings before the end and refuses to accept late submission (even if you miss by a fraction of a second). The time zone is set to be the local Waterloo time.
- For regular paper testing, late submission is not accepted and missed submission will receive zero marks for whatever reason.
- Students must submit exam papers (completely intact) on time in the exam room. Exams not submitted on time or submitted with missing pages or submitted elsewhere will receive zero marks for whatever reason.

5. Rules on Group Work

- Students may elect to study alone or in group depending on preferences and learning styles. In tests, they must work alone and unaided
- Unauthorized collaboration with other students (or non-students like family members and friends) and unauthorized uses of books, notes, study aids, cheat sheets, electronic and communication devices are not permitted. Violations of these rules are considered serious breach of academic integrity. Non-programmable calculators are usually allowed.

6. Rules on Laptop Computers

Laptop computers (including notebooks, netbooks, ipads, iphones, blackberry, and the likes) may be used during classes subject to the following conditions:

- they are used for learning purposes directly related to the course (e.g., taking notes, solving problems, making calculations, online search for course materials and lectures);
- they are not used in ways that unduly interfere with the study, work or working environment of other students or the class (re: University Policy 33) ;
- examples of unacceptable uses of laptops during class include: personal email, facebook, movie, inappropriate surfing, distracting noises, or working on other courses; these activities create distractions to other students (e.g., video of a high-speed car chase).

8. University Statements

1. Cross-Listed Courses

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.

2. 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, <http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm>

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, Section 4, <http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm>

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, <http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm>

Academic Integrity website (Arts):

http://arts.uwaterloo.ca/arts/ugrad/academic_responsibility.html

Academic Integrity Office (University): <http://uwaterloo.ca/academicintegrity/>

3. Accommodation for Students with Disabilities:

Note for students with disabilities: The Office for Persons with Disabilities (OPD), located in Needles Hall, Room 1132, 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 OPD at the beginning of each academic term.