ECON 3818 - 010

Introduction to Statistics with Computer Applications
Fall 2019

Instructor: Youngeun Choi

Lecture: MWF 11:00-11:50 am, ECON 117

Office: ECON 309B

Office Hours: T 11:00-12:00 am, W 3:00-4:00 pm

Email: youngeun.choi@colorado.edu

Course Website: canvas.colorado.edu

Course Description

This class will give you an introduction to probability theory and the main tools of Statistics. It will prepare you to succeed in econometric courses. Statistics gives us a way of linking economic theory with the real world through data analysis. It also allows us to translate datasets into usable information. Using statistics also makes us identify patterns and trends in the data in order to inform decision-making.

Prerequisite

Econ 2010 & 2020. Econ 1088 (or an approved similar course). This class requires algebra and calculus so exposure to these concepts is required.

Textbook

David Moore, William Notz, and Michael A Fligner. *The Basic Practice of Statistics.*

Either 7th or 8th edition is fine.

Lectures

Note-taking is very important in this course. It is highly recommended that you attend lecture since I will not post answers we solve during the lecture. If you miss some lectures, it is your responsibility to contact a classmate to get the notes corresponding to the missed lecture(s). Attendance will be mandatory for the first three classes. Students may be administratively dropped for non-attendance of the first three classes. From the fourth lecture on, I will occasionally take attendance. You are also responsible for any announcement or instructions given in class (this may include instructions for tests). I would occasionally distribute question sheets and ask you to fill the answers during the lectures which will be collected after the lecture. These will be also counted as your attendance.

Grading

Exam	Weight	Date
Midterm 1	20%	September 27th
Midterm 2	20%	November 1st
Final	30%	December 15th
Attendance and HW	10%	In class
R Exercise & Project	10%	-
Recitation	10%	-

Exams Policies:

- All exams (midterms and final) will take place in our classroom (ECON 117). Please do not be late for any of those. Being late can be distracting for your classmates and you will have less time to complete the corresponding exam.

- **I will not give any early or make-up exams.** If there is documentation of a medical or family emergency so that you miss one of midterms, the weight of that will be added to the final exams.

- Exams will consist of multiple choice questions along with a couple of free response questions.

- You will be allowed to bring a **3x5" index card** with notes to refer to during the exam. Any tables required will be provided by the instructor.

Homework:

- There will be weekly or every second week homework assignments assigned during lectures. I will post problem set and solution only after it is graded.

- Due date will be printed in your homework assignment. The schedule will be changed along the workloads and difficulties of the homework.

- I only accept printed version of your homework. Either hand-written or computer-typed is accepted.

- No late homework will be accepted.

- The two lowest homework grades will be dropped.

- If you hand in the assignment separately, you could work in groups.

Recitation:

Recitation attendance is **mandatory**. Not only will your grade in recitation account for 10% of your final grade in the course, but there will be material provided in recitation that is **crucial** for success in the course. Your TA is **Sutianjie Zhou** PhD student, refer to his/her syllabus to see how recitation grades are determined.

R Project & Exercises:

R is popular free programming language that is utilized primarily for data analysis. We will spend time throughout the course working on R exercises through the **RStudio** interface. There will be five simple R assignments and one data project throughout the semester.

- There will be five simple R assignments and one data project throughout the semester.

- R project will be worth 5%.

- R assignments will be worth the other 5%.

    We will work on these assignments in class the week before they are due. R assignments must be physically handed in to be graded on the due date. *No late assignment is accepted.* Still, you should **upload at canvas before the class starts**. These will not be graded on canvas but I want to double-check whether the assignments is handed in the right day. **Again, I will only grade hard copies of the assignments**.

R Installation I will ask you to install **R** and **RStudio** before the first day of R day. If you have trouble with installation, please come to my office hours on August 28t and 29th or make an appointment with me. The installation guidance will be posted on canvas.

Tentative Course Outline

Week	Date	Content	Announcements
Week 1	Aug 26-30	Math Review, CH 1-2	
Week 2	Sep 4-6	CH 12, 13	
Week 3	Sep 9-13	CH 14, 3	**R assign 1 due Wed (9/11)**
Week 4	Sep 16-20	Expectation & CH 8, 9	**R assign 2 due Wed (9/18)**
Week 5	Sep 23-27		**Midterm 1 on 9/27**
Week 6	Sep 30-Oct 4	Estimation & CH 15	
Week 7	Oct 7-11	CH 16, 17	**R assign 3 due Wed (10/9)**
Week 8	Oct 14-18	CH 17, 18	
Week 9	Oct 21-25	CH 20-21	
Week 10	Oct 28-Nov 1		**Midterm 2 on 11/1**
Week 11	Nov 4-8	CH 22, 23, 4	**R assign 4 due Wed (11/6)**
Week 12	Nov 11-15	CH 4, 6	
Week 13	Nov 18-22	Data cleaning	**No regular class - individual meetings**
Week 14	Nov 25-29	Thanksgiving Break	
Week 15	Dec 2-Dec 6	CH 26	**R assign 5 due Wed (12/4)**
Week 16	Dec 9-13	Final Review	**R project due Mon (12/9)**

Bring laptops on R days! Python Day is on every Friday.

University Policies

Students with Disabilities: If you qualify for accommodations because of a disability, please submit to me a letter from disability services in a timely manner so that your needs can be addressed. Disability services determine accommodations based on documented disabilities. Contact: 303-492-8671, Center for Community N200.

Religious Observance Policy: Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments, or required attendance. If you have a conflict, please contact me at the beginning of the term so we can make proper arrangements.

Honor Code: All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-725-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at: http://www.colorado.edu/policies/honor.html and at http://www.colorado.edu/academics/honorcode/

Discrimination & Harassment Policy: The University of Colorado Policy on Sexual Harassment applies to all students, staff and faculty. Sexual harassment is unwelcome sexual attention. It can involve intimidation, threats, coercion, or promises or create an environment that is hostile or offensive. Harassment may occur between members of the same or opposite gender and between any combinations of members in the campus community: students, faculty, staff, and administrators. Harassment can occur anywhere on campus, including the classroom, the workplace, or a residence hall. Any student, staff or faculty member who believes s/he has been sexually harassed should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the ODH and the campus resources available to assist individuals who believe they have been sexually harassed can be obtained at: http://www.colorado.edu/odh/