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Preliminary syllabus (some dates can still be updated)

Overview & Goals

Economics 307 is an introductory course in statistics. Statistics is a mathematical tool for analyzing data. This course covers descriptive statistics, probability, basic inferential statistics (estimation and hypothesis testing) and regression analysis (econometrics).

The goal of the course is to help you learn how to use statistical methods to describe data and to test theories about relationships among variables that are policy or business relevant, or that are key to understand social science issues. The course will use examples from economics, social sciences, business and public policy.

It is important that you read the chapter assignments before the lectures on the assigned chapters. Even if you don't always have time to read the entire reading assignment carefully, you should at least skim through the material before class to become familiar with the terms and concepts that will be discussed. This will make the lectures more meaningful and easier to follow.

The learning goals in this course are that each student will develop skills and abilities:

• To use quantitative, economic and statistical reasoning to ask and answer questions that you care about, especially questions related to social and economic issues.

• To be able to identify erroneous statistical conclusions in newspaper articles, policy documents, popular reporting of science, business and financial reports, and everyday life.

Course Format

This course is taught in person. The office hours will also be in person (unless specific and extreme circumstances force us to shift class or office hours to Zoom).

Study Groups

I encourage to study and work in small groups. Nevertheless, the submission of theory and code assignments must be individual.

Prerequisites

Econ 101 (Principles of Microeconomics) and Econ 102 (Principles of Macroeconomics). Note: you cannot enroll in Econ 307 after taking or while taking Econ 308. Students may receive credit for only one of the following introductory statistics courses: BUAD 231, ECON 307, and MATH 106.

Requirements & Evaluation

The course requirements are participation (both in class and through participation exercises), weekly code assignments, problem sets, a midterm, and a final.

Recommended Textbook:

Essential Statistics, Regression, and Econometrics, 2nd Edition; Gary Smith; 2015 Academic Press.

Lectures:

Chancellors Hall 134 TR 11:00 – 12:20 pm EST

Grading:

 Participation exercises, 	
rticipation in	
10%	
20%	
20%	
25%	
25%	

Professor Office hours:

T R, 4:30 – 5:30 pm

Exam Dates (subject to change):

Midterm: Thursday, October 21st, 2021 at 11:00 am, (in class)

Final exam (cumulative):

Monday, December 20^{th,} 2021, 2:00 pm (120 minutes)

Participation in class, attendance, participation exercises: I assign 10% of your grade to participation. My expectation is that each week each student will make at least one content-related question in class, or in office hours. The question could be about lecture material, theory assignments, or code assignments. I will also take attendance. Lastly, every section of the course contains participation exercises that are due one week after we complete the section.

Theory assignments: There will be between 6 and 8 theory assignments in the course. These are due at the beginning of class on the date indicated. In some occasions, depending on the pace of the lecture I could delay the submission of a theory assignment by a few days.

In calculating the average grade for your theory assignments, I will drop the lowest homework grade.

To submit your problem sets, please take a photo of each page of your work. Please use a scanning app, such as Camscanner or similar, to improve the quality of the photographs. If I cannot read an assignment properly, it is disorganized, messy, or the answers cannot be understood I will drop points from your assignment.

<u>Submit the assignment as a single pdf</u>, not doing so implies an automatic reduction of 10 points from your theory assignment. Lastly, upload the assignment to Blackboard by the due date, at 11:59 pm.

Code assignments: There will be between 7 to 9 graded coding assignments in the course. These assignments sometimes will include extra theoretical questions to increase your comprehension of the topic.

You will do these assignments and submit them individually. You should submit two files: the R code and a single pdf file that contains all your answers (including graphs, scatterplots, theoretical solutions, etc.). The pdf needs to be self-contained when you describe your answers. Do not submit separately graphs/code output and your answers. I will take 10 points off if the format of the code assignment is not as described in this syllabus.

The exercises should be done in RStudio. Instructions in the code assignments are such that, they are self-contained.

Code assignments are due at 11:59 pm on the corresponding day. I do not accept late assignments.

Note on homework solutions. I will post the solutions to the theory and code assignments 24-36 hours after the deadline. I am happy to provide specific feedback regarding the problem sets during my office hours. It is your responsibility to verify the answers of the problem sets. Also, it is a good study practice to check the answers of the problem sets after I post them.

Exams. They will be in person. The final exam will take place during the final exam period, and it is cumulative and similar in format to the midterm. I will bring non-graphing calculators. I will distribute a sample exam before the midterm and the final.

Academic accommodations:

William & Marv accommodates students with disabilities in accordance with federal laws and university policy. Any student who feels they may need an accommodation based on the impact of a learning, psychiatric, physical, or chronic health diagnosis should contact Student Accessibility Services staff at 757-221-2512 or at sas@wm.edu to determine if accommodations are warranted and to obtain an official letter of accommodation. For more information, please see www.wm.edu/sas.

Academic honesty:

I take very seriously the Honor Code in this class. If I suspect plagiarism or cheating in any of the assignments, I will follow the <u>guidelines</u> established by the Dean of Students.

Policy on video contents:

All content posted in Canvas is for the exclusive use of William & Mary students signed into this class.

You are not allowed record class and provide it to other students (the exceptions only for academic accommodations)

Grades

The following cutoffs will define the differences between grade letters

Some type of A: You need at least 90 points. Some type of B: You need at least 80 points. Some type of C: You need at least 70 points. Some type of D: You need at least 60 points.

General policies

We are still in the middle of a pandemic in the country. I'm fully committed to making sure that you learn everything you were hoping to learn from this class. I will make whatever accommodations I can to help you finish your exercises and learn and understand the class material.

If you feel this course is challenging and you're having trouble, I will not judge or think less of you. I hope you extend the same grace to your study group members and to me. You are always welcome to talk with me about difficulties that you are facing.

Communication is key. If you are facing difficulties, please talk with me. You can make an appointment with me via email. My objective is that you enjoy learning Statistics during this course, but the number one priority in these times is that you stay well until the pandemic is over. This is especially true if this is either your freshman or sophomore year.

I have a flexible policy for code and theory assignments (not for exams though). If you know 24-hours in advance that an assignment cannot get done, email me at least 24 hours before the deadline, and I can grant you a 24-hour extension with no penalties. You can use this policy two times with no questions asked. Please do not abuse the late policy, mainly because work can accumulate easily, and it can lead to the accumulation of pending assignments (from this class and others) which will increase your stress a lot.

If you get sick or you are going through a personal situation that might last two weeks or more I can do adjustments to the deadlines of the assignments, but this will require you to contact the Student Health Center or the Office of the Dean of Students. Also, I kindly ask you to contact me as soon as possible, so we can find a way to help you.

Lastly, I cannot move exams. If an unprecedented situation occurs that impedes you from taking one of my exams, please contact me ASAP, as well as the Student Health Center or the Dean of Students.

Mental Health

The current pandemic can impact the mental health of any student. If you are experiencing distress, I encourage you to contact the <u>Counseling Center</u>. It is completely normal to talk with a mental health expert and I encourage you to do so if you feel overwhelmed or anxious by the current circumstances.