

**Econ 307**  
**Principles and Methods of Statistics**  
**Spring 2025**

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**(Lastly updated on January 21<sup>st</sup>. I can update this syllabus if needed)**

### **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 understanding social science issues. The course will use examples from economics, social sciences, business, and public policy.

**You must 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 you care about, especially questions related to social, public policy, and economic issues.
- **To identify erroneous statistical conclusions in policy, media, business, and financial documents.**
- Prepare you for Econ 308 and other Econometrics courses.
- **Provide basic statistics training for jobs and interviews in Data Science, Consulting, Finance, Economics, and Public Policy.**

### **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 strongly encourage you to study in small groups.** 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 (available online)

### **Lectures:**

Chancellors Hall 133

**Section 1:** TuTh 2:00 pm – 3:20 pm EST

**Section 2:** TuTh 12:30 pm – 1:50 pm.

### **Grading:**

- Code assignments: 12%
- Theory assignments: 9%
- Attendance: 4%
- Midterm: 30%
- Final: 45%

### **Office hours:**

TuTh, 11:00 am – 12:00 pm  
Chancellors 268

### **Exam Dates**

#### **Midterm:**

March 6<sup>th</sup>, during class.

#### **Final exam (cumulative):**

We will follow the official W&M calendar for final exams. See this [link](#) for details.

**Theory assignments:** There will be theory assignments in the course. **They are due at 11:59 pm on the date indicated.** Blackboard automatically closes the submission link after the deadline. Occasionally, depending on the pace of the lecture, I could delay the submission of an assignment by a few days.

To submit your problem sets, please scan each page of your work, and save all the photos in a single pdf. Please use a scanner or a scanning app, such as CamScanner or similar, to improve the quality of the photographs. If I cannot read an assignment properly, or if the assignment is disorganized or messy, I will drop points from your assignment.

Submit the assignment as a single pdf; not doing so implies an automatic reduction of 10 points from your theory assignment. **I do not accept late assignments.**

**Code assignments:** There will be weekly code assignments in the course. These assignments might 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 script and a single pdf file that contains all your answers (including graphs, scatterplots, theoretical solutions, etc.). You should not include the R script in the pdf file. The pdf needs to be self-contained when you describe your answers. The pdf must contain any graphs or tables produced by the code. 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. The instructions of the assignments describe with detail your tasks.

**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 similar in format to the midterm. I will bring non-graphing calculators. I will distribute one practice exam before the midterm and the final.

## Academic accommodations:

William & Mary 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](mailto: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](http://www.wm.edu/sas).

## Academic honesty:

I take the Honor Code very seriously in this class. If I suspect plagiarism or cheating in any of the assignments, I will follow the [guidelines](#) 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 or to third parties (the exceptions only for academic accommodations)

## Grades

The following cutoffs will define the differences between grade letters

A: You need at least 95 points.

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.

## Use of computing equipment in class

**The use of laptops and cellphones is not allowed in this class.** If a student uses their cellphone or laptop in class, the attendance of the day will be dropped.

## General policies

I'm fully committed to making sure that you learn everything you were hoping to learn from this class. I will make whatever accommodations need 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 the 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 at 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 1-day 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, which would increase your stress.

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, please contact me as soon as possible, so we can find a way to help you.

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

## Communication

**I use email extensively to communicate with students. It is your responsibility to check your email frequently.** You must pay attention to any communication via email that changes deadlines, updates material, or provides explanations on specific topics.

## Mental Health

William & Mary recognizes that students juggle different responsibilities and can face challenges that make learning difficult. There are many resources available at W&M to help students navigate emotional/psychological, physical/medical, material/accessibility concerns, including:

- The W&M Counseling Center at (757) 221-3620. Services are free and confidential.
- The W&M Health Center at (757) 221-4386.
- For additional support or resources & questions, contact the Dean of Students at 757-221-2510.

