The George Washington University

Department of Statistics

Syllabus *for* **STAT 1051_11:   Introduction to Statistics for Business and Economics:**

Spring Semester, 2024: This course runs from January 16 to April 29, 2024.

Instructor: Francois Tuamokumo, Ph.D.   (Simply, Dr. T.)

Email: francois.tuamokumo@email.gwu.edu

Phone: 301 204 7364   (It's easier to contact me by text than email)

Office: Room 734 Phillips Hall (Arts and Science Building)

Office Hours: 5:00 – 6:00 PM on Tuesdays and Thursdays; **No appointment is needed.**

Class meets in Room B04 Gelman Library, located at 2130 H Street NW, DC on Tuesdays and Thursdays from: 6:10 - 7:25 PM.

 Course Materials:

1. Textbook required: STATISTICS for BUSINESS and ECONOMICS by McClave, Benson, and Sincich: 14th Edition. This textbook is obtained electronically as soon as you register for the MyStatLab through Pearson. You MUST therefore register for it. Having registered for it, you will now have access to the **online homework in MyStatLab** you will be doing and also have access to the Statcrunch software that we shall be using in analyzing data. You are NOT required to buy a hard copy textbook separately. **You will be provided with the Course ID. Therefore wait for further notice. The above must be done before classes begin.**

    You will have to enroll into MyStatLab through Blackboard and purchase it. The price is in the neighborhood of $150.

2. Calculator required: TI-83 Plus or TI-84 Plus is required for quizzes and exams.
3. **Software**: Statcrunch will be used in analyzing data.

   I require that cell phones be turned off when class is in session and no texting as well. I do not permit taking a picture of my lecture notes on the board.

Classes will be held in-person on campus. Students are expected to attend these classes in-person on a consistent basis. There will be no option of participating remotely.

Recording of Lectures: I do intend to record my lectures through the lecture capture tool. If you happen to miss a class, it will be in your best interest to obtain class notes, referenced readings from a fellow student, and the recorded lecture.

Course Description:

 Nearly every aspect and component of our culture, society, recreation, education, and lives are dependent upon, related to, and intertwined with statistics. The first part of the course (*Descriptive Statistics*) is designed to enable you to become more aware of the fundamental applications and uses of statistics in our society, and gain understanding on the basic principles of communicating information contained in data. The second part of the course (*Inferential Statistics*) is designed to lay the statistical foundation to conduct scientific inquiry and for pursuing research in business and social sciences. It is this part of the course that creates most of the 'mystery" associated with statistics and can be viewed as a preparation for taking one or more subsequent courses in statistics or research methods.

Course Objective:

At the end of the course, I expect that you shall have learnt and acquired knowledge in a variety of statistical concepts. You will be able to:

1. Define and describe variables and how they are measured.
2. Carry out graphical and numerical summaries of the data and be able to clearly interpret what information they contain.
3. Describe the center of distributions and how to measure it.
4. Describe variability and different ways we measure it.
5. Use sampling distributions to make inferences about a population.

6. Construct Confidence intervals and clearly explain what they say about the population.

7. Know how and when to use statistical tests (z-test, t-test), correctly interpret the results, and be able to make data-driven decisions.

 Grading Weights

2 exams	(20% each)	40% of course grade
Class quizzes (pop quizzes given randomly)		15% of course grade
Class Assigned Homework (TA Grades Homework)		10% of course grade

MyStatLab Homework   10% of course grade

Final exam   25% of course grade

Homework: Homework will be assigned in-class and **will** be collected for grading. Please **staple** your homework. Your homework will be collected every Tuesday of the week. Your grade on the homework will depend on neatness, completion, and correctness of the solutions. You will lose a lot of points, particularly, for sloppy presentation. Please present your work neatly for grading. Each homework assignment will be graded out of 20 points. It should be pointed out that a commitment to completing homework assignments on time, and in their entirety, aids students in successfully finishing the course. The **Online** MySataLab homework will be graded by the computer.

Quizzes: At the end of most class periods or while the lecture is in progress, a quiz of at most two problems that might take at most 10 minutes to do will be given. Each quiz will be graded out of 20 points. I'll drop your three lowest quiz grades before computing your final quiz grade. This is because you may miss one or two classes during the semester due to extenuating circumstances. **There are no make-up quizzes**. **But note that if you missed three quizzes, then, you do not have any quizzes to drop. Your missed quizzes are your dropped quizzes. Please note that as you signed up for the course, you have made a commitment to yourself and must work diligently to meet the requirements. I do not tolerate absences.**

In-Class Exams (40%): There will be two in-class exams. Each exam will be graded out of 100 points. You can make up at most one exam due to extenuating circumstances. It is my observation that students, in most cases, perform relatively better when taking the test at the specified time, rather than later. Please prepare to take the exams at the scheduled dates.

> *Tentative* **exam dates**:   #1:   Thursday, February 15, 2024
>
>   #2:   Thursday, March 21, 2024

Final Exam: **May (To be determined later)**

Final Exam (25%): The final exam is a mandatory, cumulative test (though will consist of mainly topics covered after exam #2) that will be given on the date and time stated above. The exam will cover all the topics presented in the semester. The exam will *not* be given to students at a time/day different from the one stated above. Be certain to consider the scheduling of this exam when making travel plans.

Course Grades (A, A-, B+, B, B-, C+, C, C-, D, etc) will be earned.

>= 94	A
90 – 93.9	A-
87 – 89.9	B+
84 – 86.9	B
80 – 83.9	B-
77 – 79.9	C+
74 – 76.9	C
70 – 73.9	C-
67 – 69.9	D+
64 – 66.9	D
60 – 63.9	D-
<60	F

Academic Integrity:

Standards of academic conduct are governed by the University's Academic Integrity Code. By enrolling in the university and registering for this course, you acknowledge your familiarity with the Code and pledge to abide by it. All suspected violations of the Code will be immediately referred to the Office of the Dean. Disciplinary action, including the failure for the course, suspension, or dismissal, may result.

Additional Information about the code (i.e. acceptable forms of collaboration, definitions of plagiarism, use of sources including the Internet, and the adjudication process) can be found in a number of places, including the University's *Academic Regulations, Student Handbook*, and Academic Integrity Code website. If you have any questions about academic integrity or standards of conduct in this course, please discuss them with your instructor.

I am required to report cases of academic dishonesty to the dean of the College of Arts and Sciences. Students are required to be familiar with George Washington University's Academic

Integrity Code. For additional information, please see,
http://www.gwu.edu/~ntegrity/code.html

Academic Support and Access Center

In addition to using the resources available in this course's department, all students may take advantage of individual academic counseling, skill workshops, tutor referrals, Supplemental Instruction, and writing appointments in the Academic Support and Access Center.

Students with Disabilities: If you wish to receive accommodations for disability, please notify me with a letter from the *Disability Support Services (DSS)* office at 202-994-8250 in the Marvin Center, Suite 242, to establish eligibility and to coordinate reasonable accommodations. As accommodations are not retroactive, timely notification at the beginning of the semester, if possible, is requested. This course is intended to include all students irrespective of race, religion, gender or any other conditions. For additional information, please refer to: http://gwired.gwu.edu/dss/

University Counseling Center (UCC) **202-994-5300**

The Counseling Center offers counseling and consultations regarding personal concerns, self-help information, and connections to off-campus mental health resources. http://gwired.gwu.edu/counsel/CounselingServices/AcademicSupportServices

Center for Diversity & Inclusion

The Center for Diversity and Inclusion is dedicated to enhancing LGBTQ, Multicultural, First Generation, and Women's experiences on campus and to advance GWU's commitment to respecting & valuing diversity by serving as a resource and liaison to students, staff, and faculty on issues of equity through education, outreach, and advocacy.

Emergency Preparedness for Disruption of Classes

In the event of an emergency, if at all possible, the class should shelter in place. If the building that the class is in is affected, follow the evacuation procedures for the building. After evacuation, seek shelter at a predetermined rendezvous location. Students are responsible for checking their GWU e-mail regularly and keeping themselves informed of emergencies. In the event of an emergency, students should refer to the GWU Student Portal, the GWU Website for

<u>Emergency Preparedness</u> and the GWU information line for general university-wide information, as well as contact their faculty and/or respective dean's office for course and school/ college-specific information.

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The Recitation Classes will be held on ----- by a Teaching Assistant (TA) from:

1. -----------   **and**
2. -----------

You are required to attend at least one of these classes each week. These classes are held to further assist students on the material but they are not designed to do homework for students. Do not expect the TA to do homework for you.

Please always check *Blackboard* for announcements.

14. Hypothesis Testing about the Population Proportion: Chapter 8

15.   *p*-value (what is it?)   Chapter 7

16. Using *p*-value to draw conclusions in hypothesis testing in the above hypothesis testing cases

17. Linear Regression Analysis and Correlation;   Chapter 11