Welcome to PSYC 2020 Psychological Statistics

	**Lectures Slides / Lab Materials (https://gatech.instructure.com/courses/554438/pages/lecture-slides-and-lab-materials-2)**

Course Instructor

Eunbee Kim

PhD in Quantitative Psychology
School of Psychology

Lecture Time: MW 9:30-11:40AM

Lecture Location: Zoom (Synchronous Remote)

Email: **eunbee.kim@gatech.edu (mailto:eunbee.kim@gatech.edu)**

Lab Instructor

Shuheng Jiang

PhD Candidate in Quantitative Psychology
School of Psychology

Lab Time: F 12:30-4:45PM

Lab Location: Zoom (Synchronous Remote)

Email: sjiang384@gatech.edu

Course TA

Alina Tran

PhD Candidate in Psychology

Email: atran362@gatech.edu

Course Description & Objectives

By the end of this course, students will be able to:

- Understand and apply core statistical concepts and Interpret correlations, regressions, t-tests, ANOVAs, and chi-squared tests
- Run these analyses and apply statistical models in R.

In short, at the end of this course a successful student will be able to consume and generate basic statistical analyses.

Prerequisites

- MATH-1502 (Calculus II) /1512 (Honors Calculus II) /15X2 (Transfer Calculus) /1522 (Linear Algebra for Calculus) etc. (Calc II)
- some exposure to linear algebra

Textbook and Other Materials

- Field, A., Miles, J., & Field, Z. (2012). *Discovering statistics using R*. Los Angeles, CA: Sage. and other supplementary materials
- **Additional Materials/Resources for the Course:** The following are free online textbooks for statistics:
- https://onlinestatbook.com/index.html
- https://open.umn.edu/opentextbooks/textbooks/559
- https://ethanweed.github.io/pythonbook/landingpage.html

Assessment of Learning

Lecture Attendance	100 points (11.1%)

In-Class Activity/Quizzes/Homework	200 points (22.2%)
Ed Discussion	50 points (5.6%)
Lab/ Lab Assignments	200 points (22.2%)
Midterm	150 points (16.7%)
Final	200 points (22.2%)
Total Points	**900 points (100%)**
	For each section, the earned points will be proportionally converted based on the rubric's weighting. For instance, if you earn 95 out of 100 possible scores for Final, this score will be scaled to 190 out of 200 points according to the rubric.

LECTURE ATTENDANCE: From past experience teaching various courses, we have found a strong statistical relationship between class attendance and overall course performance. To that end, attendance will be counted as a small part of the course grade to help students perform better overall.

Beginning on the second week of class, attendance will be taken at all lecture sessions. To receive points, students are expected to arrive on time and stay for the entire class period. Arriving more than five minutes late, leaving class early, or acting in a disruptive manner during class will forfeit the points. Students must attend the lecture for which they are officially registered to earn attendance points.

This attendance policy is designed to promote class participation; therefore, no makeups will be permitted under any circumstances, and no absences will be classified as "excused" without official documentation. However, to accommodate valid reasons for missing class, **students can still earn full attendance points with up to one without documentation**.

Attendance will be strictly monitored, and points for a session will be annulled for the entire class if the number of respondents exceeds the total number of students present on that day, so please do not have another student sign in for you, and do not sign in for another student.

Class disruptions of ANY kind will NOT be tolerated and may result in your removal from the classroom and/or loss of participation points for that day. Please show courtesy to your fellow classmates and instructor or teaching assistant by adhering to the following class rules:

• Come to class on time and stay for the entire class period.

• Refrain from conversing with your fellow students.

• Put away any reading materials, cellular phones, and other electronic devices unrelated to the course.

IN-CLASS ACTIVITIES/QUIZZES/PARTICIPATION: You are expected to come prepared and actively participate in the class sessions. **In the event of an absence, you are responsible for all missed materials, quizzes, assignments, and any additional announcements or schedule changes given in class**.

Attendance is expected for this course. To further encourage active learning and ensure your understanding of the material, a series of unannounced in-class activities will be administered throughout the semester. Some activities will be completed individually, whereas others will be completed in a group. Activities will be given at different points during class time (beginning, middle, or end), so it is important that you arrive to class on time and stay for the entire duration of the class. This should encourage you to attend class on time, keep up with your readings and assignments, and engage in class discussion.

All the Quizzes/Exams are closed-notes and closed-books; cheat sheets are NOT allowed.The work on all exams must be your OWN work, that is, they are not to be completed with th e help or aid of others or outside materials. See **http://www.catalog.gatech.edu/policies/honor-code/Links to an external site. (http://www.catalog.gatech.edu/policies/honor-**

code/%22%20%5Ct%20%22_blank) or http://www.catalog.gatech.edu/rules/18/Links to an external site. (http://www.catalog.gatech.edu/rules/18/%22%20%5Ct%20%22_blank) for information on Georgia Tech's Academic Honor Code.

Make-Up Assessments (Quizzes/Exams/Presentations): Make-up assessments may be arranged only with an Institute-Approved Absence or an official letter from the Dean of Students. Documentation must be provided prior to the scheduled quiz/exam date and before arranging the make-up exam.

ASSIGNMENTS: Credit for assignments will be based on your individual contribution to the in-class activity and the accuracy of your responses.

Missed assignments can only be made up with an Institute Approved Absence or an official letter from the Dean of Students and must be completed within 7 days of the original in-class activity day. No exceptions will be made to this policy. It is your responsibility to contact the instructor via email to make up missed activities.

ED DISCUSSION: While in-class participation will be encouraged, this course also includes an asynchronous discussion component via Ed Discussion. This platform is designed to provide fast and efficient support from classmates, the TA, and myself.

To earn full credit for the Ed Discussion portion of your grade, you are expected to contribute an average of one post every two weeks—either by asking a question or responding to a classmate's post. **A total of five posts by July 31 will count as full participation.** Posts can include programming questions, psychological concepts, problem-solving inquiries, approaches to assignments, or any other course-related topics. Simple posts that ask about logistics (e.g., "When is the exam?", "Do we have a class tomorrow?") rather than course content generally wouldn't count towards the requirement unless they stimulate further discussion on course-related topics.

You are encouraged to actively engage by answering each other's questions; however, course instructors will also participate, and particularly insightful or notable posts may be highlighted during lectures or labs for further discussion.

Most of your Ed Discussion posts should be made to the full class. The exception is if you have a question about a particular assignment, quiz, or anything else that could spoil answers for classmates. In these cases, you should post to instructors only. Please post these messages rather than email or DM them, as we may determine they are OK to make public (with your permission) if we think it would be helpful to others.

Midterm and Final Exams: Multiple choice questions or/and oral examination. Final is cumulative.

Grading Scale:

Grade	%	Score Range
A	90% or above	810 – 900 points
B	80 – 90%	720 – 809.999 points
C	70 – 80%	630 – 719.999 points
D	60 – 70%	540 – 629.999 points
F	Below 60%	539.999 points or fewer

This grading scale **already accounts for rounding** and any applicable curve. No further rounding or adjustments will be made on an individual basis.

**Please refrain from contacting your instructors to request additional rounding or adjustments to the curve.

Course Policies

All work for this class is to be done individually. You are strongly urged to familiarize yourselves with the **GT Student Honor Code (http://osi.gatech.edu/content/honor-code)** rules. Specifically, the following is not allowed:

- Copying, with or without modification, someone else's work when this work is not meant to be publicly accessible *(e.g., a classmate's program or solution).*
- Submission of material that is wholly or substantially identical to that created or published by another person or persons, without adequate credit notations indicating authorship *(plagiarism).*
- Putting your projects on public. Otherwise, if a student *(in the future)* copies your codes/projects, the student obviously violates the honor code but you will also be implicated.

Academic Integrity

Students are expected to uphold the highest standards of academic integrity. Any form of cheating, plagiarism, or dishonesty will not be tolerated and may result in disciplinary action.

Zero Tolerance Policy on Cheating and AI Assistance (e.g., Chat GPT, Gemini)

We maintain a strict zero-tolerance policy regarding academic dishonesty, including the use of ChatGPT and other AI tools. Any student found using AI to complete assignments/quizzes/exams will be reported immediately, receive a grade of zero for the submission, and risk a final grade of F.

Disability Accommodations

If you require any accommodation due to a disability, please inform the instructor at the beginning of the course to ensure that appropriate arrangements can be made.

Preliminary Course Schedule (subject to Change)

Week 1: Probabilities & Distributions

Week 2: p-value and Null Significance Hypothesis Testing

Week 3: Central Limit Theorem and Sampling Distribution

Week 4: Correlation/Covariance & Mean as the single best estimator

Week 5: Simple Linear Regression & Midterm

Week 6: Independent t-test & Type I & II errors

Week 7: t-test + SLR & ANOVA

Week 8: Multiple Regression

Week 9: two-way ANOVA

Week 10: Chi-squared test

Week 11: Catch-up & Final