Hello Everyone! My name is Nicolas Christou and I have been a faculty member of the UCLA Department of Statistics since 2000. I am honored to be part of your UCLA journey, and I look forward to having you in Statistics 100B!

OFFICE HOURS:
Office hours are offered every day and some weekends. Do not hesitate to come to office hours if you have any questions. It will be great to see you! The weekend office hours will be announced by email every Friday. The office hours during the week are MWF 12:00 - 14:00, TR 12:00 - 13:00, 16:00 - 17:00. I can also meet by appointment outside of the office hours. Please let me know and we will schedule a meeting.

POLICIES AND PROCEDURES
Summer session COVID-19 Protocols
• Classes are held in person.
• Indoor masking is required.
• All summer session, students and instructors are required to complete daily symptom monitoring.
• Weekly COVID-19 testing is highly recommended.
• For more information about testing and other details, see the COVID-19 and vaccine resources page: https://covid-19.ucla.edu.
• Instructors should continue to be flexible in meeting students COVID-related needs.

RESOURCES:
Textbook (optional):
Handouts can be accessed at http://www.stat.ucla.edu/~nchristo/statistics100B/.

Software:

COURSE PREREQUISITES:
Statistics 100A or Mathematics 170A.
COURSE DESCRIPTION AND OBJECTIVES:
Statistics 100B mainly deals with parameter estimation of various distributions. The problem is stated as follows: Suppose $X_1, X_2, \ldots, X_n$ are i.i.d. random variables from a distribution with pdf $f(x; \theta)$, where $\theta$ is unknown. Given this sample we would like to find an estimate of the parameter $\theta$. We will also discuss properties of estimators, confidence intervals, and hypothesis testing. The $t$, $\chi^2$, and $F$ distributions will be discussed at the beginning of the course. They are very important in statistical inference. If time permits we will also discuss simple regression and correlation (this will be an introduction to Statistics 100C).

COURSE TOPICS
1. Exponential families.
3. Random vectors.
4. Joint moment generating functions for a random vector, multivariate normal distribution.
5. The central limit theorem and the law of large numbers. The distribution of the sample mean and sum of $n$ independent and identically distributed random variables.
6. The $\chi^2$, $t$, and $F$ distributions.
11. Factorization theorem.
12. Minimal sufficiency and MVUE.
13. Lehmann and Scheffé theorem.
15. Confidence intervals.

ACCOMMODATIONS:
Students needing academic accommodations should contact the Center for Accessible Education (CAE): http://www.cae.ucla.edu or call (310) 825-1501.

STUDENT RESOURCES:
- Resources on Equity, Diversity, and Inclusion: https://equity.ucla.edu/know/.
- Students can embrace their identities - LGBTQ Center: https://www.lgbt.ucla.edu.

COURSE GRADES:
We will maintain the academic rigor of an upper division mathematical course in statistics while being flexible in student assessment. There will be two quizzes, one midterm exam, weekly homework, and a final exam.
1. Final exam (35%): This will be a 3-hour exam scheduled on Friday, 00 September from 11:00 - 14:00.
2. Midterm exam (25%): This will be a 2-hour exam scheduled on Tuesday, 23 August from 12:00 - 14:00.
3. Two quizzes (20%): Assigned during week 2 and 5. These will be 2-hour take-home quizzes and can be taken in a 24-hour window after they are assigned.
4. Weekly homework (20%). There is flexibility on the submission due dates. Homework can still be uploaded 24 hours after the due date.

All assignments will be uploaded on Gradescope (https://www.gradescope.com).

The course grade will be based on the calculation:
$$\text{Final score} = 0.20 \times \text{Homework} + 0.20 \times \text{Quizzes} + 0.25 \times \text{Midterm} + 0.35 \times \text{Final}$$
COMMUNICATION:
Please keep a current e-mail address with my.ucla.edu in order to receive class announcements and reminders.

IMPORTANT DATES:
First class: 02 August.
Last class: 08 September.
Holidays: Labor Day, Monday, 05 September.

EXAMS:
Final exam: Friday, 09 September.
Midterm exam: Tuesday, 23 August.
Quiz 1: Week 2.
Quiz 2: Week 5.

Good Luck !!!