Hello Everyone! My name is Nicolas Christou and I have been a faculty member of the UCLA Department of Statistics since 2000. It is a great feeling to be back in-person. 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 office hours on weekends will be announced by email on Friday. The office hours during the week are MWRF 13:00 - 15:00, T 14:00 - 16:00. The office hours will be in-person and also on Zoom. You are welcome to join the in-person office hours or join the Zoom meeting. I can also meet by appointment outside of the office hours. Please let me know and we will schedule a meeting.

POLICIES AND PROCEDURES
- Daily symptom monitoring survey every day that you are on campus: https://uclasurveys.co1.qualtrics.com/jfe/form/SV_3qRLtoUCYKzBbH7.
- Mask use, regardless of vaccination status, is required in all indoor spaces on the UCLA campus, including classrooms. Masks are required during lecture at all times. Please wear your mask properly to cover your mouth and nose.
- Food and drinks are highly discouraged unless for medical reasons. For hydration briefly remove your mask and then wear it again.
- Testing: UCLA requires twice-weekly testing for all unvaccinated students, faculty, staff and others living, learning or working on campus. Regular testing is not mandatory for vaccinated, asymptomatic individuals who have verified their vaccination status with the university, although they are strongly encouraged to continue testing once a week.
- Be on time and remember to turn off or silent your cell phone. You may use electronic devices for note-taking.

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

COURSE PREREQUISITES
Statistics 100A, Mathematics 170A, 170E.
COURSE DESCRIPTION AND OBJECTIVES
Statistics 100B mainly deals with parameter estimation of various distributions and models. 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, interval estimation, and the theory of statistical tests. Exponential families, moment generating functions, distributions related to normal ($t, \chi^2$, and $F$) will be discussed at the beginning of the course.

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.

1. Final exam (30%): The final exam is scheduled on Wednesday, 12/08, 8:00 - 11:00.
2. Midterm 1 (20%): Week 4, Tuesday, 10/19, 6-8 pm.
3. Midterm 2 (20%): Week 8, Tuesday, 11/16, 6-8 pm.
4. Three take-home quizzes (15%): They will be assigned at 5 pm on Thursdays of week 2, week 6, and week 9, and will be due by 8 am on the next day.
5. Weekly homework assignments (15%).

All exams are open notes. You can use your class notes, handouts, homework, homework solutions, your statistical tables, in general all the material posted on the course website, the CCLE website, and any calculator or R. All the assignments must be uploaded before the due day/time on Gradescope (https://www.gradescope.com).
The course grade will be based on the calculation

Final score = 0.15 × Homework + 0.15 × Quizzes + 0.20 × Midterm1 + 0.20 × Midterm2 + 0.30 × Final

IMPORTANT DATES:
First lecture: 24 September.
Last lecture: 03 December.
Holidays: Thursday, 11 November (Veterans Day), Thursday-Friday, 25-26 November (Thanksgiving).

Good luck!!!