

MATH 4636/6636 Introduction to Statistical Theory  
Lih-Yuan Deng, DH219, 678-3134  
email: [lihdeng@memphis.edu](mailto:lihdeng@memphis.edu)  
Spring, 2021  
Time: TR 9:40am - 11:05 am  
Zoom Meeting ID: 333 162 7149  
Passcode: 66088657

**(A) Course Contents:**

1. Review of common distributions
  - (a) Discrete distributions: uniform, binomial, hypergeometric, Poisson, geometric, and negative binomial distributions, moment-generating functions.
  - (b) Continuous distributions: uniform, exponential, normal, gamma and chi-square distributions.
2. Review of Bivariate distributions: distribution of two random variables, correlation coefficient.
3. More about Bivariate distributions: conditional distribution, bivariate normal distribution.
4. Distribution of Functions of Random Variables: Transformation of random variables, Central Limit Theorem, normal approximation.
5. Point Estimation: maximum likelihood estimator, method of moment estimator
6. Interval Estimation: confidence interval constructions, sample size determination.

**(B) Office Hours:** by appointment via email: [lihdeng@memphis.edu](mailto:lihdeng@memphis.edu). My zoom ID information: Meeting ID: 333 162 7149 Passcode: 66088657

**(C) Textbook:**

- “Probability and Statistical Inference”, 9th edition, Robert V. Hogg, Elliot A. Tanis and Dale L. Zimmerman. Prentice Hall, ISBN 0-321-92327-8 (978-0-321-92327-1)

**(D) Grading:**

- mid-term exam -1 ..... February 23, 2021 (Tuesday) ..... 25 %
- mid-term exam -2 ..... April 4, 2019 (Tuesday) ..... 25 %
- final exam (comprehensive) ... May 4, 2021, **10:30am-12:30pm** (Tuesday) .. 35 %
- homework and class participation ..... 15 %

- 2021 Spring semester schedule:

<https://www.memphis.edu/registrar/calendars/academic/ay2021.php>

**(E) Class Schedule/ Expectations:** This class is being offered as a Remote Course for the beginning of the semester, lectures will be held over Zoom during scheduled class time. The time and URL for each Zoom meeting will be communicated in advance via email and it will be posted in eCourseware. We expect that Zoom lectures will be recorded and posted in eCourseware. Given that we have a small class size, we can be flexible on the lecture format for the remaining of the semester. Unless there is a significant improvement on the COVID-19 situation, it is likely that we will continue with the Zoom meeting. If we were to switch to have a in-person class (highly unlikely), you must wear a mask to enter the room. Attendance will not be counted toward final grade. Please take time to go to the following page and read what the administration and faculty believe to be important considerations for you, as a student, to consider regarding the COVID-19 virus.

<https://www.memphis.edu/msci/news/covid.php>