STA 2212S: Mathematical Statistics II
Wednesday, 10-12 am; Friday 10-11 am Eastern January 13 – April 12 2021

From the calendar:

This course is a continuation of STA2112H. It is designed for graduate students in statistics and biostatistics. Topics include: Likelihood inference, Bayesian methods, Significance testing, Linear and generalized linear models, Goodness-of-fit, Computational methods

Prerequisite: STA2112H

I will definitely cover the first 3 topics, and the 5th, and we'll see how time goes for the others. "Computational methods" was probably meant to be shorthand for "bootstrap" and "MCMC", and will be touched on in the other topics.

Course Delivery:

The class will be delivered at the scheduled time (Wednesdays, 10-12 am; Fridays 10-11 am; Toronto time) using Zoom. There is a Zoom link on the Quercus page for the course. The lectures will be recorded for viewing offline after the scheduled time. The slides for the lectures will be posted, on good weeks before the scheduled course time, and on rushed weeks just after.

We will use Piazza for discussion, as it is now integrated with Quercus. You will find an entry for Piazza in the course menu. If you click it, you will be asked to sign up. Please see the instructions in the handout, especially the highlighted bits.

Grading:

The course grade will be 60% homework, 40% take home final. There will be one homework question assigned each Friday, due the following Friday. Each of these twelve questions will be worth 5% initially, but your two lowest marks will be dropped and the homework portion of the grade re-calibrated accordingly. The take-home final will be released April 12, due April 22 (tentative).

Academic Integrity:

Discussion about your work with your classmates is encouraged, but the homework solutions you submit must be written, and coded, independently. You may use code provided by by me without attribution, but you must acknowledge code taken from any other source using a proper bibliographic reference. To protect yourself from potential academic integrity offences, do not share your code and written submissions. The University of Toronto's Code of Behaviour on Academic Matters is available at http://academicintegrity.utoronto.ca.

Computing:

I will always refer to the `R` computing package and I highly recommend the `RStudio` environment.

I strongly recommend using R Markdown or LateX to prepare your homework. For questions involving computing you will need to submit working code. This is easy in R Markdown, but R scripts will also be accepted. Neat homework makes it easier on the grader, and a happy grader is a generous grader.

Text:

Wasserman, L. (2004). *All of Statistics.* Springer-Verlag, NY. [Chapters 9–12]

References

Davison, A.C. (2003). *Statistical Models.* Cambridge University Press, Cambridge. [Chapters 4, 7, 11]

Efron, B. and Hastie, T. (2016). *Computer Age Statistical Inference.* Cambridge University Press, Cambridge.

Course web page(s):

The course materials will be posted to the web page https://utstat.toronto.edu/reid/html/sta/sta2212s.html. The Quercus page for STA2212H will lead you to this page. I will use Quercus for discussion (via Piazza), homework reminders and grades management.

Contact: Nancy Reid: `reid@utstat.utoronto.ca`

Office Hours: Monday 7.00 – 8.00 pm; Thursday 11.00am – 12.00pm; Friday 11.00am – 12.00pm; by appointment

Teaching Assistant: TBD