

STA3000 Advanced Theory of Statistics II

WINTER 2024/2025

Instructor: Piotr Zwiernik

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Lecture: Monday 10am-1pm, SK 100

Office hour: see the website, UY 9133

Course website: <https://pzwiernik.github.io/sta3000/>

Overview

Important announcements, additional examples, and other course information will be posted on course homepage. Check them regularly.

Textbooks

All the relevant material is in the lecture notes.

Assessment

Grade = 40% * Homework + 60% * Final

- Three homeworks; each worth 13.(3)%

Course Outline

- Exponential families and convexity
- Statistical decision theory
- Advanced topics in statical testing: multiple testing, sequential testing, e-values
- Empirical processes
- Concentration of measure with statistical applications

Accessibility Statement

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the AccessAbility Services Office as soon as possible. I will work with you and AccessAbility Services to ensure you can achieve your learning goals in this course. Enquiries are confidential.

Questions and concerns related to the Accessibility for Ontarians with Disabilities Act can be directed to the Accessibility for Ontarians with Disabilities Act (AODA) Office at aoda@utoronto.ca. Further resources related to the AODA are available on U of T's AODA Office website.

Academic Integrity Statement

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's Code of Behaviour on Academic Matters (<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

- In Papers and Assignments: Using someone else's ideas or words without appropriate acknowledgement. Submitting your own work in more than one course without the permission of the instructor. Making up sources or facts. Obtaining or providing unauthorized assistance on any assignment.
- On Tests and Exams: Using or possessing unauthorized aids. Looking at someone else's answers during an exam or test. Misrepresenting your identity.
- In Academic Work: Falsifying institutional documents or grades. Falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes. All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, you are expected to seek out additional information on academic integrity from your instructor or from other institutional resources (see <http://academicintegrity.utoronto.ca/>).