

ADVANCED STATISTICAL THEORY

AY2019/2020 Semester 1

Instructor: LIN Zhenhua	Time: Tue/Thu 4:00 – 6:00PM
Email: stalz@nus.edu.sg	Place: S16-04-30

Course Pages:

1. <https://luminus.nus.edu.sg/>
2. <https://blog.nus.edu.sg/zhenhua/teaching/st5215-ay2019-2020/>

Office Hours: Tue/Thu 3:00 – 4:00PM @ S16 #07-103, or by appointment via email.

Textbook:

- Jun Shao, *Mathematical Statistics*, Springer, 2nd Edition, 2003.¹

Description: This module will cover (some of) Chapter 1 to Chapter 4 of *Mathematical Statistics* by Jun Shao. Topics include 1) brief review of probability theory; 2) fundamentals of statistics, such as sufficiency and completeness, statistical decision theory, statistical inference; 3) U-statistics and V-statistics; 4) estimation in parametric models.

Prerequisites: ST2131 and ST2132, or departmental approval

Grading Policy: 4 homework assignments ($5 \times 4 = 20\%$), 1 midterm (30%) and 1 final (50%).

Homework:

- All homework assignments are to be submitted no later than the beginning of the lecture on the due date (listed below). Late homework will never be accepted.

Homework	Assigned on	Due on
#1	27 Aug 2019	3 Sep 2019
#2	17 Sep 2019	1 Oct 2019
#3	15 Oct 2019	22 Oct 2019
#4	5 Nov 2019	12 Nov 2019

- Homework assignments can be submitted either electronically or in person.
- Homework submission must be typeset (preferably by \LaTeX).
- Discussion with classmates on homework assignments are allowed and encouraged. However, you must write up your homework solutions independently in your own words.

¹downloadable from NUS library.

Exams: The midterm and final are closed-book and closed-notes. 1 two-sided or 2 single-sided sheets (A4 paper size) of your own notes are allowed. Below are exam dates.

Midterm 4:00 – 6:00PM, 3 Oct 2019

Final Exam 5:00 – 7:00PM, 2 Dec 2019

Academic Integrity: The University takes a strict view of cheating in any form, deceptive fabrication, plagiarism and violation of intellectual property and copyright laws. Any student who is found to have engaged in such misconduct will be subject to disciplinary action by the University; see [NUS Code of Student Conduct \(A\)](#).

Typesetting using \LaTeX :

- For installation of \LaTeX distribution, see <https://www.latex-project.org/get/>.
- For a text editor, you might want to try [Texmaker](#), [TeXstudio](#), and/or [LyX](#) which is A WYSIWYM (what you see is what you mean) editor.