MAS583 – Random Matrix Theory and its Application

Classroom: E6-1. 3434

Class Hours: Mon. 14:30~17:15

Instructor: Ji Oon Lee (E6-1. 2404, Tel. 2711, jioon@kaist.ac.kr)

Textbook: Lecture note for the course will be provided.

References: "An Introduction to Random Matrices" by Anderson, Guionnet, and Zeitouni
"Topics in Random Matrix Theory" by Tao
"Orthogonal Polynomials and Random Matrices: A Riemann-Hilbert Approach" by Deift
"Eigenvalue Distribution of Large Random Matrices" by Pastur and Shcherbina
"A Dynamical Approach to Random Matrix Theory" by Erdős and Yau

Topics: classical random matrix models, local laws, global laws, universality, various random matrix models, applications, related topics

Remarks:
- The course will cover basic properties of random matrix theory, including universality results.
- Prerequisite: linear algebra, probability theory, complex analysis, measure theory (undergraduate level)
- Teaching will be in English. Questions can be in English or Korean.