Full Syllabus

Course Title

Signal processing for data science

Lecturer

Dr. Tamir Bendory

Semester

Course requirements

Final grade components

Course schedule

Class no. / Date	Subject and Requirements (assignments, reading materials, tasks, etc.)
1	Linear algebra, SVD, spectral decomposition
2	PCA and PCA in high dimensions
3	Spectral problems on graphs (page ranking)
4	Non-linear dimensionality reduction and diffusion maps
5	Convex optimization, max-cut and its SDP relaxation
6	Phase retrieval
7	Estimation over groups
8	Synchronization
9	The cryo-EM problem
10	Estimation theory: computational perspective
11	Estimation theory: computational perspective
12	Estimation theory: computational perspective
13	Multiple hypothesis testing

Required course reading

Optional course reading

Comments