TEL AVIV UNIVERSITY אוניברסיטת תל אביב

Full Syllabus

Course Title

Introduction to Machine Learning

Lecturer

Dr. Nadav Cohen

Semester

Fall

Course requirements

See catalog

Final grade components

20% homework assignments, 80% final exam

Course schedule

Class no. / Date	Subject and Requirements (assignments, reading materials, tasks, etc.)
1	Introduction to the course and to machine learning
2	Probably-approximately-correct (PAC) learning model
3	Generalization bounds, VC dimension, bias-variance tradeoff, model selection
4	Regularization, optimization
5	Support vector machines (SVM)
6	Kernels
7	Multi-class learning, deep learning
8	Decision trees
9	Boosting and ensemble methods
10	Regression, online learning
11	Principal component analysis (PCA), clustering, generative models
12	Gaussian mixture model (GMM) and expectation maximization (EM)
13	Summary, supplements,

Required course reading

Optional course reading

https://www.cs.huji.ac.il/~shais/UnderstandingMachineLearning/understanding-machine-learning-theory-algorithms.pdf

Comments