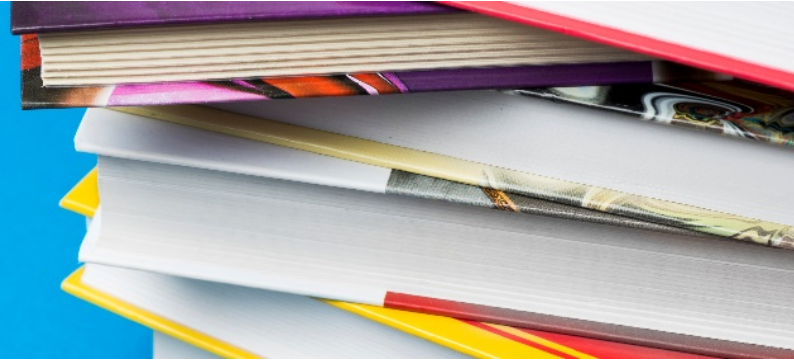# Full Syllabus

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. K-Nearest Neighbor algorithm
2	PAC model and basic Generalization bounds
3	Generalization bounds: VC dimension, Rademacher Complexity, Model Selection
4	Perceptron algorithm and mistake bound
5	Support Vector Machines (SVM)
6	Kernels
7	Stochastic Gradient Descent and Deep Learning
8	Decision Trees
9	Boosting and ensemble methods
10	Regression and PCA
11	Clustering and Generative Models
12	Gaussian mixture model (GMM) and Expectation Maximization (EM)
13	Graph Based Methods and Summary

Required course reading

Optional course reading

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

Comments