

Week	Topics	Reading	Comments
1 (1/7-1/11)	Intro to ML	HOML Ch 1-2 (79 pgs), DL Ch 1 (40 pgs)	Introductory/Review Material
2 (1/14-1/18)	ML Overview	AIMA Ch 18-20 (116 pgs)	Learning from Examples, Knowledge in Learning, and Learning Probabilistic Models
3 (1/22-1/25)	Tools for ML	PFDA Ch 2-7 (204 pgs)	IPython, Python review, NumPy Basics, Pandas Basics, Data formats, cleaning and prep with Pandas
4 (1/28-2/1)	Tools for ML	PFDA Ch 8-13 (184 pgs)	Data wrangling, visualization, and aggregation with Pandas, Time series data, Advanced Pandas, ML Examples with Pandas
5 (2/4-2/8)	Classification & Regression	HOML Ch 3-5 (81 pgs), PSDS Ch 4-5 (90 pgs)	Linear, multiple, polynomial, spline, ridge, and lasso regression. Naïve bayes, discriminant analysis, logistic regression, SVMs
6 (2/11-2/15)	Tree Models & Unsupervised Techniques	HOML Ch 6-8 (57 pgs), PSDS Ch 6 & 7 (74 pgs)	Decision trees, ensemble learning, random forests, dimensionality reduction, K-means, tree models, PCA, clustering
7 (2/18-2/22)	Deep Learning	HOML Ch 9-11 (86 pgs) DL Ch 2-3 (73)	NN and DL fundamentals, Tensorflow
8 (2/25-3/1)	Deep Learning	HOML Ch 12-15 (125 pgs)	Distributing NN, architectures (convolutional NN, recurrent NN, and autoencoders)
9 (3/4-3/8)	Deep Learning	DL Ch 4-7 (203 pgs)	Architectures continued (convolutional, recurrent, recursive, and pretrained NN), building, and tuning
10 (3/11-3/15)	Reinforcement Learning	AIMA Ch 21 (23 pgs), HOML CH 16 (24 pgs)	Policy search, MDPs, active vs passive, etc
11 (3/18-3/22)	Spring Break		
12 (3/25-3/29)	Project		
13 (4/1-4/5)	Project		
14 (4/8-4/12)	Project		
15 (4/15-4/19)	Project		
16 (4/22-4/26)	Project Results		

PFDA = Python for Data Analysis by Wes McKinney

HOML = Hands-On Machine Learning with Scikit-Learn & Tensorflow by Aurelien Geron

DL = Deep Learning by Josh Patterson and Adam Gibson

PSDS = Practical Statistics for Data Scientists by Peter and Andrew Bruce

AIMA = Artificial Intelligence a Modern Approach by Stuart Russel and Peter Norvig