		Date	Lecture Topics	Deliverables	Notes	Slides
Week 1	Lecture 1	9/26	Introduction			Download slides here
	Lecture 2	9/28	Supervised learning setup. LMS.		Sections 1.1, 1.2 of main notes	
	TA Lecture 1	9/30/2022	Linear Algebra Review		Notes	Slides
Week 2	Lecture 3	10/3	Weighted Least Squares. Logistic regression. Newton's Method		Sections 1.3, 1.4, 2,1, 2.3 of main notes	
	Lecture 4	10/5	Dataset split; Exponential family. Generalized Linear Models.		Section 2.2 and Chapter 3 of main notes	
		10/5/2022		**Problem Set 0 (Due at 11:59 pm PT - Ungraded)**		
	TA Lecture 2	10/7/2022	Probability Review		Notes	Slides
		10/8/2022		**Final Project Proposal (Due at 11:59 pm PT)**		
Week 3	Lecture 5	10/10/2022	Gaussian discriminant analysis. Naive Bayes.		Section 4.1, 4.2 of main notes	
	Lecture 6	10/12/2022	Naive Bayes, Laplace Smoothing.			
		10/13/2022		**Problem Set 1 (Due at 11:59 pm PT)**		
	TA Lecture 3	10/14/2022	Python/Numpy		jupyter notebook	slides
Week 4	Lecture 7	10/17/2022	Kernels; SVM		Chapter 5	
	Lecture 8	10/19/2022	Neural Networks 1		Sections 7.1, 7.2	
	TA Lecture 4	10/21/2022	Evaluation Metrics			slides
		10/21/2022				
Week 5	Lecture 9	10/24/2022	Neural Networks 2 (backprop)		Section 7.3	
	Lecture 10	10/26/2022	Bias-variance tradeoff, regularization		Sections 8.1, 9.1, 9.3	Bias/variance slides Ridge regression slides Lasso regression slides Bias/variance annotated Ridge annotated
		10/26/2022		**Problem Set 2 (Due at 11:59 pm PT)**		
	TA Lecture 5	10/28/2022	Midterm Review	**Final Project Milestone (Due at 11:59 pm PT)**		Slides
Week 6	Lecture 11	10/31/2022	Decision trees		Not in main notes	Boosting slides Decision Trees slides Decision Trees annotated Decision Trees Overfitting Lasso annotated
	Lecture 12	11/2/2022	Boosting		Not in main notes	
		11/3/2022		**MIDTERM (Location TBD, 6 pm - 9 pm PT)**		
			No TA Lecture (Midterm Week)			
Week 7	Lecture 13	11/7/2022	K-Means. GMM. Expectation Maximization.			K-means slides GMM slides EM slides PCA slides K-means annotated GMM annotated EM annotated PCA annotated
	Lecture 14	11/9/2022	EM, PCA			

	TA Lecture 6	11/11/2022	Deep Learning (Convnets)			Slides
		11/12/2022		**Problem Set 3 (Due at 11:59 pm PT)**		
Week 8	Lecture 15	11/14/2022	ML Advice			ML advice
	Lecture 16	11/16/2022	Other learning settings. Large language models & foundation models			Learning + foundation models
	TA Lecture 7	11/18/2022	GANs			
Week 9	Lecture 17	11/28/2022	Basic concepts in RL, value iteration, policy iteration.			
	Lecture 18	11/30/2022	Model-based RL, value function approximator			
		12/2/2022		**Problem Set 4 (Due at 11:59 pm PT)**		
Week 10	Lecture 19	12/5/2022	fairness, algorithmic bias, explainability, privacy			fairness fairness annotated
	Lecture 20	12/7/2022	fairness, algorithmic bias, explainability, privacy			privacy privacy annotated explainability explainability annotated
		12/9/2022		**Final Project Report (Due at 11:59 pm PT)**		
		12/14/2022		**Final Project Poster Session (3:30 pm - 6:30 pm PT)**		

Other Resources

(Hover over each cell for hyperlinks)

All lecture videos can be accessed through Canvas.

Advice on applying machine learning: Slides from Andrew Ng's lecture on getting machine learning algorithms to work in practice can be found here.

Previous projects: Projects from previous years can be found in the "Final Projects" doc on the home page.

Data: Here is the UCI Machine learning repository, which contains a large collection of standard datasets for testing learning algorithms. If you want to see examples of recent work in machine learning, start by taking a look at the conferences NeurIPS (all old NeurIPS papers are online) and ICML. Some other related conferences include UAI, AAAI, IJCAI.

Viewing PostScript and PDF files: Depending on the computer you are using, you may be able to download a PostScript viewer or PDF viewer for it if you don't already have one.

Machine learning study guides tailored to CS 229 by Afshine Amidi and Shervine Amidi.

The Matrix Cookbook: Quick reference for matrix identities, approximations, relations, etc.