

		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.							