		Date	Lecture Topics	Deliverables	Notes	Slides		
Week 1	Lecture 1	9/27/2023	Introduction					
	TA Lecture 1	9/29/2023	Linear Algebra Review		Notes	Slides		
Week 2	Lecture 2	10/2/2023	Supervised learning setup. LMS.		Sections 1.1, 1.2 of main notes			
	Lecture 3	10/4/2023	Weighted Least Squares. Logistic regression. Newton's Method		Sections 1.3, 1.4, 2.1, 2.3 of main notes			
		10/4/2023		**Problem Set 0 (Due at 11:59 pm PT - Ungraded)**				
	TA Lecture 2	10/6/2023	Probability Review		Notes	Slides		
Week 3	Lecture 4	10/9/2023	Dataset split; Exponential family. Generalized Linear Models.		Section 2.2 and Chapter 3 of main notes			
		10/9/2023		**Final Project Proposal (Due at 11:59 pm PT)**	CS229 Final Project Fall 2022-23			
	Lecture 5	10/11/2023	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		
		10/11/2023		**Problem Set 1 (Due at 11:59 pm PT)**				
	TA Lecture 3	10/13/2023	Python/Numpy		jupyter notebook	slides		
Week 4	Lecture 6	10/16/2023	Decision trees		Decision trees & ensemble learning	Boosting slides Decision Trees slides Decision Trees annotated Decision Trees Overfitting Lasso annotated		
	Lecture 7	10/18/2023	Boosting		Decision trees & ensemble learning			
	TA Lecture 4	10/20/2023	Evaluation Metrics			slides		
Week 5	Lecture 8	10/23/2023	Gaussian discriminant analysis. Naive Bayes.		Section 4.1, 4.2 of main notes			
	Lecture 9	10/25/2023	Kernels; SVM		Chapter 5			
		10/27/2023		**Problem Set 2 (Due at 11:59 pm PT)**				
	TA Lecture 5	10/27/2023	Midterm Review			Slides		
		10/27/2023		**Final Project Milestone (Due at 11:59 pm PT)**	CS229 Final Project Fall 2022-23			
Week 6	Lecture 10	10/30/2023	K-Means. GMM. Expectation Maximization.		Section 10, 11 of main notes	K-means slides EM slides PCA slides K-means annotated EM annotated PCA annotated	GMM slides	GMM annotated
	Lecture 11	11/1/2023	ML Advice			ML advice		
		11/3/2023		**MIDTERM: HEWLET200 (Last name A-L) & STLC111 (Last name M-Z) , 6 pm - 9 pm PT**				
			No TA Lecture (Midterm Week)					
Week 7	Lecture 12	11/6/2023	Neural Networks 1		Sections 7.1, 7.2			
	Lecture 13	11/8/2023	Neural Networks 2 (backprop)		Section 7.3			
		11/10/2023		**Problem Set 3 (Due at 11:59 pm PT)**				
	TA Lecture 6	11/10/2023	Deep Learning (Convnets)			Slides		
Week 8	Lecture 14	11/13/2023	Basic concepts in RL, value iteration, policy iteration.					
	Lecture 15	11/15/2023	Model-based RL, value function approximator					
	TA Lecture 7	11/17/2023	GANs					

Week 9	Lecture 16	11/27/2023	EM, PCA			
	Lecture 17	11/29/2023	Other learning settings. Large language models & foundation models			Learning + foundation models
		12/1/2023		**Problem Set 4 (Due at 11:59 pm PT)**		
Week 10	Lecture 18	12/4/2023	fairness, algorithmic bias, explainability, privacy			fairness fairness annotated
	Lecture 19	12/6/2023	fairness, algorithmic bias, explainability, privacy			privacy privacy annotated explainability explainability annotated
		12/8/2023		**Final Project Report (Due at 11:59 pm PT)**	CS229 Final Project Fall 2022-23	
		12/13/2023		**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.