

The following is a tentative schedule and subject to change.

Date	Lecture	Topic	Book Chapters	Session	Assignment/Exam
1/19/2021	1	Intro, supervised and unsupervised learning	ISLR Ch1-2	1	-
	2	Curse of dimensionality, assessing model accuracy	ISLR Ch2	1	-
	3	K nearest neighbors, bias and variance trade-off	ISLR Ch2	1	-
	4	Linear Regression	ISLR Ch3	2	Homework 1 due
	5	Logistic Regression	ISLR Ch4.3	2	Article Eval 1 due
	6	Linear/quadratic discriminant analysis	ISLR Ch4.4	2	Homework 2 due
	7	Naive Bayes, ROC curve	Murphy Ch3.5	2	-
	8	Nonlinearity: polynomial regression	ISLR Ch7	3	Homework 3 due
	9	Cross-validation	ISLR Ch5	3	Article Eval 2 due
	10	Bootstrap	ISLR Ch5	4	Homework 4 due
	11	Subset/stepwise selection, AIC, BIC, Adjusted R-squared	ISLR Ch6	5	-
	12	Shrinkage methods, ridge and lasso regression	ISLR Ch6	5	Homework 5 due
	13	Principal component regression, partial least squares	ISLR Ch6	5	Article Eval 3 due
	14	Decision Trees	ISLR Ch8	6	Midterm assigned
	15	Bagging, boosting, random forest	ISLR Ch8	6	-
	16	Signal processing	-	-	-
	17	Support vector classifier, kernel methods	ISLR Ch9	7	Midterm due
	18	Support vector machine	ISLR Ch9	7	Homework 6 due
	19	Unsupervised learning, dimension reduction	ISLR Ch10	8	-
	20	K-means/hierarchical learning methods	ISLR Ch10	8	Homework 7 due
	21	Gaussian mixture methods, EM algorithm	Bishop Ch9	8	Article Eval 4 due
	22	Review of classification methods, project guidelines	-	-	Homework 8 due
	23	Gradient descent, forward and backward propagation	CASI Ch18; Goodfellow Ch6-8	9	-
	24	Deep learning	CASI Ch18; Goodfellow Ch6-8	9	-
	25	Group project presentation I	-	-	-
	26	Group project presentation II	-	-	-