General Course Schedule (this can change during the semester; an up to date version can be found in Canvas)

Version: August 14

Week	Topic	Reading	Activities
Introduction and Overview			
1	Introductions Overview of the Data Science lifecycle (CRISP-DM) What is statistical learning?	Introduction to Statistical Learning (ISL) Chapter 2	Brief recap of R and RStudio
2	Model accuracy Course project overview	Introduction to Statistical Learning (ISL) Chapter 2	Overview of project data and activities
Regression Analysis			
3	Review of single and multiple regression analysis Model assumptions and tests for the assumptions	Introduction to Statistical Learning (ISL) Chapter 3	
Classification Models			
4	Introduction to general classification models Logistic Regression, LDA, QDA, KNN Evaluation of classification models	Introduction to Statistical Learning (ISL) Chapter 4	Assignment 1 due
Resampling in Model Building			
5	Resampling Methods Training-Test set and k-fold Cross Validation Bootstrapping	Introduction to Statistical Learning (ISL) Chapter 5	
Advanced Classification Models			
6	Decision Trees	Introduction to Statistical Learning (ISL) Chapter 8	
7	Decision Trees	ISL Chapter 8	Assignment 2 due

8	Decision Trees: Bagging and Boosting	ISL Chapter 8	Milestone 1 – Initial project report due
9	**Fall Break, no class!**		
10	Support Vector Classifier and Support Vector Machines (SVM)	ISL chapter 9	
Advanced Regression Topics			
11	Model selection (subset selection review) Model regularization (ridge regression, LASSO)	ISL Chapter 6	Assignment 3 due
12	Non-linear models Polynomial Regression, Splines	ISL chapter 7	
13	Non-linear models part 2	ISL chapter 7	
Unsupervised Learning			
14	Unsupervised Learning Clustering	ISL chapter 10	Assignment 4 due
15	Unsupervised Learning Dimensionality Reduction	ISL chapter 10	
16	Final Project presentations Final presentation at Industry Partner (winning team)		
17	Final project report due		Assignment 5 due