

Session No	Title	Estimated Time (minutes)	Total Time
Algorithm			
1	Introduction	20	2 hours, 50 minutes
	Exercise 0	10	
	Pseudocode	30	
	Exercise 1	20	
	Mathematical Problem Solving	15	
	How Computers think	10	
	Algorithms	10	
	Flowchart	35	
	Exercise 2	20	
Session Break/ HW1			
Python Basics			
2	Setting up Python Environment	20	2 hours, 40 minutes
	Basic Syntax and keywords	30	
	Commenting in Python	10	
	Exercise 3	20	
	Variables and Data types	30	
	Arithmetic and Logic Operators	20	
	Exercise 4	20	
Session Break			
3	Conditional statements	20	2 hours, 40 minutes
	Exercise 5	30	
	Loops	30	
	Exercise 6	20	
	List and Strings	50	
	Exercise 7	10	
Session Break/ HW2			
4	Dictionaries	20	2 hours, 30 minutes
	Functions	30	
	Exercise 8	15	
	Basic Math functions	10	
	Files IOStream	40	
	Exercise 9	20	
	Overview of classes (OOP)	15	
Session Break/ HW3			

Python applications in Data Science / Machine Learning			
5	Numpy	20	2 hours, 30 minutes
	Basic Numpy functions	20	
	Exercise 10	30	
	Advanced Numpy functions	30	
	Linear algebra functions	20	
	Exercise 11	30	
Session Break/ HW4			
6	Pandas	20	2 hours, 30 minutes
	Dataframe	30	
	Updating Dataframe	20	
	Joining Dataframe	20	
	Missing Data	30	
	Exercise 12	30	
Session Break			
7	Visulization	10	2 hours, 20 minutes
	Matplotlib	20	
	Plot types	10	
	Axis Manipulations	20	
	Subplots	20	
	Clean and readable plots	30	
	Exercise 13	30	
Session Break/ HW5			
8	Machine Learning	10	2 hours, 30 minutes
	Supervised vs. Unsupervised	20	
	Scikit-Learn	10	
	Classifiers	20	
	Data split	20	
	Exercise 14	30	
	Exercise 15	30	
Session Break/ HW6			