

Hour	Unit	Topic	Teaching Methodology	Remarks
1	I	Definition of Data Science	Whiteboard	
2	I	Datafication	Whiteboard	
3	I	Exploratory Data Analysis (EDA)	Whiteboard	
4	I	The Data Science Process	Whiteboard	
5	I	Role of Data Scientist in the Process	Whiteboard	
6	I	NumPy ndarrays – Basics and Creation	Whiteboard	
7	I	Data Types, Array Operations	Whiteboard	
8	I	Indexing and Slicing	Whiteboard	
9	I	Boolean and Fancy Indexing	Whiteboard	
10	I	Conditional Logic, Sorting, Unique	Whiteboard	
11	II	Introduction to pandas and Features	Whiteboard	
12	II	Series and DataFrame Structures	Whiteboard	
13	II	Index Objects and Reindexing	Whiteboard	
14	II	Dropping Entries, Indexing and Filtering	Whiteboard	
15	II	Sorting and Ranking	Whiteboard	
16	II	Descriptive Statistics	Whiteboard	
17	II	Unique Values, Value Counts	Whiteboard	
18	II	Handling Missing Data	Whiteboard	
19	III	Reading and Writing Text Files	Whiteboard	
20	III	Reading Files in Pieces	Whiteboard	
21	III	Writing Data Out to Text Format	Whiteboard	
22	III	Manual Delimited Formats	Whiteboard	
23	III	Working with JSON Data	Whiteboard	
24	IV	Working with XML and HTML	Whiteboard	
25	IV	Web Scraping Basics	Whiteboard	
26	IV	Binary Data Formats	Whiteboard	
27	IV	Using HDF5 Format	Whiteboard	
28	IV	Reading Excel Files	Whiteboard	
29	IV	Interacting with Databases	Whiteboard	
30	IV	Storing and Loading in MongoDB	Whiteboard	

31	V	Combining and Merging Data Sets	Whiteboard	
32	V	Database Style Merges	Whiteboard	
33	V	Merging on Index	Whiteboard	
34	V	Concatenation Along an Axis	Whiteboard	
35	V	Combining Data with Overlap	Whiteboard	
36	V	Reshaping and Pivoting	Whiteboard	
37	V	Hierarchical Indexing and Transformation	Whiteboard	
38	V	Removing Duplicates and Replacing Values	Whiteboard	
39	VI	Introduction to matplotlib API	Whiteboard	
40	VI	Figures, Subplots, Colors, and Markers	Whiteboard	
41	VI	Ticks, Labels, and Legends	Whiteboard	
42	VI	Annotations and Drawing on Subplots	Whiteboard	
43	VI	Saving Plots to File	Whiteboard	
44	VI	Plotting in pandas	Whiteboard	
45	VI	Line and Bar Plots	Whiteboard	
46	VI	Histograms and Density Plots	Whiteboard	
47	VI	Scatter Plots	Whiteboard	
48	All	Final Review and Discussion	Whiteboard	