Job ready Data Analyst course in 10 weeks: -

- Excel for data analysis (VLOOKUP, Pivot table, Pivot Charts) (1 Portfolio project) – 12 hours
- Statistics in R (1 Portfolio project) – 9 hours
- SQL for Data Reporting and Analysis. (1 Portfolio project) – 9 hours
- Python for Data Analysis (Pandas, NumPy and Matplotlib). (1 Portfolio project) – 12 hours
- Tableau for Data Visualization. (1 Portfolio project) – 14 hours

Excel for data analysis
Week 1: - Excel lookup functions – 2 hours • Locating Data with MATCH, INDEX, and XMATCH functions • Vlookup, Hlookup, and Xlookup. • Finding matching data without using external lists • Other functions with lookup Capabilities **Quiz – 1** **Assignment 1**
Week 2: - PivotTables and Pivot Charts – 5 hours • Pivot tables and formatting • Sorting filtering and grouping data. • Calculated Values, Fields, and Items. • Visualizing data with Pivot Charts. **Assignment 2** **Quiz - 2**
Week 3: - Real world case studies - 3 hours • Applying concept learned in W2 to build an Excel projects. **Assignment 3** **Quiz - 3**
Final Exam – 2 hours

Statistics in R

Week 1: - Introduction to statistics – 2 hours

- Measure of Central tendency and dispersion.
- Z scores
- Correlation and Regression

Quiz – 1
Assignment 1

Week 2: - Probability & Randomness – 1 hour

- Sample space, events & tree diagrams.
- Conditional probability & Independence.
- Decision trees and Bayes law

Assignment 2
Quiz - 2

Week 3: - Probability distribution – 2 hours

- Mean and variance of a random variable.
- The normal distribution.
- Binomial distribution.
- Sample distribution
- Central limit theorem

Assignment 3
Quiz - 3

Week 4: - Hypothesis testing – 2 hours

- Confidence interval for proportion
- Sample size.
- Significance test
- Type I and Type II error.

Assignment 3
Quiz - 3

Final Exam & Projects – 2 hours

SQL

Week 1: - SQL for Data Analysis – 3 hours

Using SQL to report data.

- Data retrieval with Select.
- Where clause, IN, Like, wildcards, Order by, strings

Using SQL to Group data.

- Group by and Count
- Having clause
- De-duplication with SELECT clause.
- Merge rows using Group by

Merge data from Multiple tables

- SQL indexes, JOIN, Unions and Subqueries
- Advanced SQL using variable, functions and procedures and views.

Quiz – 1
Assignment 1

Week 2: - Using SQL for data cleaning project. (3 hours)

- Implement the concept of SQL for cleaning data, which involves understanding data.
- Use of length, left, right functions for data cleaning.
- Use of Upper case, Lower case, replace, trim, and concatenation.
- Use of string, aggregation and coalesce function.

Quiz - 2
Assignment 2

Week 3: - SQL for Exploratory data analysis (1 hour)

- Why Explore data?
- Queries, statistics, Data Quality checks, missing values.
- Quartiles, histograms, and Correlations
- Using chi square to understand the correlations.
- Percentiles, row number and basic linear models.

Quiz - 3
Assignment 3

Final exam and Project – 2 hours

Python

Week 1: - Fundamental of data Manipulation with Python – 2 hours

- Python functions, types, and sequence.
- Read and write CSV files.
- Python dates and times.
- advance objects, map.
- Python lambda and List Comprehensions.
- Fundamental numerical computation using NumPy.
- Manipulating data using Regular expression.

Quiz – 1
Assignment - 1

Week 2: - Data Processing with Pandas. – 4 hours

- Series data structure
- Indexing, loading, querying data frame
- Merging, Group by and Pivot table
- Date/time functionality

Quiz - 2
Assignment 2

Week 3: - Exploratory data Analysis in Python – 2 hours

- Define exploratory data analysis.
- Explore the data set.
- Check missing values and outliers.
- Create visual method of analyzing using matplotlib.
- Analyze trend, patterns, and relationship in data.

Quiz - 3
Assignment 3

Week 4: - Handling Messy data (Project) – 2 hours.

- Statistical test knowledge on data frame.
- Apply merge and the techniques of cleaning data.

Quiz - 4
Assignment 4

Final Exam and Projects – 2 hours

Tableau

Week 1: - Cleaning, transforming, and preparing data. (3 hours)

- Introduction to Tableau
- Connecting to data.
- Cleaning data
- Combining data.
- Reshaping data
- Sampling and sharing your data.

Quiz – 1
Assignment - 1

Week 2: - Mastering Calculations using Tableau. (4 hours)

- Introduction to calculation in tableau.
- Summarizing data using aggregate function.
- Working with times and dates
- Creating calculations using logical functions.
- Creating Level of Detail (LOD)
- Summarizing data using table calculations.
- Managing text strings.

Quiz - 2
Assignment 2

Week 3: - Creating interactive dashboards. (4 hours)

- Elements of a Good Dashboard.
- Dashboard Structure.
- Dashboard components.
- Dashboard design elements.
- Interaction with Dashboard Actions.
- Using stories to make dashboards.

Quiz - 3
Assignment 3

Week 4: - Tableau portfolio project (1 hours)

- Importing data from several data source.
- Visualization and dashboards.

Quiz - 4
Assignment 4

Final Exam and Project (2 hours)