

R Course Curriculum (4 Weeks)

Week 1: Getting Started with R

- Introduction to R and RStudio
- Installing R and navigating the interface
- Basic syntax: variables, vectors, and data types
- Writing simple scripts and running commands
- Loading and exploring datasets

Week 2: Data Cleaning with tidyverse

- Introduction to tidyverse packages
- Using dplyr for filtering, selecting, and summarizing
- Tidying data with tidyr
- Handling missing or duplicate data
- Combining datasets with joins

Week 3: Data Visualization with ggplot2

- Introduction to ggplot2 basics
- Creating bar, line, and scatter plots
- Customizing themes and labels
- Using facets and grouping data
- Exporting and saving plots

Week 4: Statistical Analysis & Application

- Basic descriptive statistics
- Introduction to hypothesis testing
- Running t-tests and chi-square tests
- Real-world mini-project
- Summary and next steps