

WEEK 01 Introduction to R & Basic Operations

Summary: This topic covers Introduction to R Programming and various Packages and Tools available in R. You will also learn how to set up R on your PC from scratch, install packages and get acquainted with the software even if you've never used it before.

- R-Studio
- Installing Packages in R
- Programming Language Basics
- Scalars, Vectors and Data Frames
- Simple Calculations Data Structure

7 hours

WEEK 02 Data Manipulation

Summary: This topic covers the various Data Manipulation techniques widely used in R. You'll learn how to create, subset, rename and recode variables as well as the application of SQL in R, among other things.

- Data Acquisition (Import & Export)
- Sub-setting observations
- Transforming Variables
- Merging and Concatenating Datasets
- Using SQL in R

7 hours

WEEK 03 Writing Functions and Basic Operations

Summary: This topic covers the usage of Basic operators, Functions and Graphs in R. You will also learn how to make a script and create a basic R package.

- Creating User Defined Functions
- Line Plots & Bar Charts
- Pie Charts, Histograms and Scatter Plots
- 3-D & Parallel Coordinates
- Future Settlement & Pricing Simulations

7 hours

WEEK 04 Basic Statistics in R

Summary: This topic covers the Basic Statistics used in R, including Statistical Variables as well as Descriptive & Inferential Statistics.

- Outlier Detection
- Cross-Tabs and Hypothesis Testing
- ANOVA and 2-way ANOVA
- Correlations and Sampling
- Random Number Generation

7 hours

WEEK 05 Multivariate Analysis using R Programming

Summary: This topic focuses on how to implement Multivariate Analysis in R as well as the various techniques employed

- Cluster Analysis
- Principal Component Analysis
- Factor Analysis
- Market Basket Analysis

6 hours

WEEK 06 Predictive Modelling using R Programming

Summary: This topic covers Predictive Modelling techniques in R. You will understand techniques like Decision Trees, Random Forests, Recommender Engines & RWeka using practical easy-to-understand examples

- Multiple Linear Regression
- Decision Tree and Random Forest
- Naïve Bayes
- KNN and SVM
- Algorithms in Rweka

6 hours

WEEK 07 Text Analytics using R Programming

Summary: This topic covers Text Mining and Text Analytics in R, along with its practical application. There will be a practical case study at the end to help you understand and apply the concepts learned.

- Basics of Text Analytics
- Visualizations in Text Mining
- Text Clustering and Categorization
- Exercise/Quiz/Activity

8 hours

WEEK 08 Capstone Project

Summary: The course ends with students submitting a capstone project. Our experts review each of these projects in detail and provide valuable feedback to students. The industry endorsed CIRP certificate is provided upon successful completion of the project.

- Choose topic from multiple options
- Evaluation by industry experts
- Feedback on project submission
- CIRP certificate awarded

CASE STUDIES



TITANIC

An interesting project where students are given the task to predict the survival of passengers on the Titanic based on various factors such as gender, age, passenger class and port of embarkation.



COLONIAL BROADCASTING

A major American television network, must determine whether fact-based or fiction-based television movies garner higher ratings. Furthermore, the network must decide whether to accept a fixed fee or a sliding-scale contract.



CLASS EXAMINATION

Here we look at a class with 22 students and how they performed in a given exam. Using analytical tools, you need to identify how the overall class performed and provide a report on the performance of every student in this examination.