

## Introduction to Statistical Programming with R: Basic Concepts and Applications

### PURPOSE

The aim of the training is to teach programming using the R programming language and to provide the programming infrastructure necessary for data science. This training aims to enable participants to read and write data using R, as well as to programme and analyse data using R.

### WHO CAN PARTICIPATE?

This training is suitable for those who wish to learn the basics of the R language and develop their statistical analysis skills with R, particularly employees and managers in risk management and credit analytics teams, business analysts, and data mining specialists.

### CONTENT

#### Introduction to Statistical Programming with R

Introduction to R:

- Installing R and RStudio
- A brief history of R
- The RStudio interface

#### R Programming Fundamentals:

- Basic calculation operators in R
- Opening an RStudio project
- Using R Script
- Assignment operator
- Working with objects
- R computational logic
- Element-wise execution examples

#### Basic R Functions:

- round function
- mean function
- sample function
- Simulations in R

#### Writing Our Own Function in R:

- R function structure
- Using the function function
- Writing functions
- Assigning arguments to our function

#### Object Types in R

- Numeric data (Doubles)
- Character data (Characters)
- Logical data (Logicals)
- Categorical data (Factors)
- Lists
- Data frames

#### Basic Data Analysis in R

- Importing data into R from external sources
- Exporting data from R

- Filtering data in Basic R (positive numbers, negative numbers, logical values, filtering data by variable name)
- Filtering variables using the dollar sign
- Modifying values in objects
- Filtering data using logical comparison expressions
- Boolean operators
- Working with missing (NA) data

### Data analysis with the Tidyverse package

- Installing packages and loading them into a session in R
- Basic dplyr functions (filter, arrange, select, mutate, summarise) and examples
- Combining operations using the pipe operator
- Statistics and data analysis using banking data with the Tidyverse package

Education History	Friday, 13 February 2026 Saturday, 14 February 2026
Virtual Classroom Application	
Virtual Classroom	
Start-End Time	10:00 - 16:00

## INSTRUCTOR



Dr. Ali Fehim Cebeci

## CURRICULUM VITAE

Dr. Ali Fehim Cebeci is a faculty member at Marmara University's Institute of Population and Social Research. He has conducted all of his data analysis and econometric modelling work using the R programming language for the past eight years and is one of Turkey's leading academics in this field.

Throughout his academic career, he has taught numerous courses at undergraduate and postgraduate levels, including Introduction to R Programming, Big Data Analysis with R, and Artificial Intelligence Applications with R. His research has been published in internationally renowned journals such as Aging & Mental Health, Computational Economics, and Applied Economics; his work has been widely cited in the literature and has received numerous citations.