

Course Objectives

- How to configure the RStudio environment and load packages
- How to use R basics such as basic math, data types, vectors, and calling functions
- How to use advanced data structures such as data frames, lists, and matrices
- How to use R base graphic packages
- How to do exploratory data analysis
- How to use R to support basic statistics, correlation, and covariance
- How to use linear models such as linear regression and logistic regression
- How to use models such as decision trees, Random Forest, and K nearest neighbor
- How to use clustering models such as K-means

Course Structure

Modules:

- Introduction to RStudio
- R Basics
- Introduction to Data Mining in R
- Classification and Clustering Models in R
- Summary

Module 1 Overview

Topics:

- What is R?
- What is RStudio?
- Why use RStudio?
- Navigating RStudio
- What are packages?
- How to install packages
- Hands-on Exercises

Module 2 Overview

Topics:

- R Math
- Data Types
- Working with Data
- Loading Data
- Writing Data
- Data Structures
- Hands-on Exercises

Module 3 Overview

Topics:

- Overview of Data Mining and Data Science
- Exploratory Data Analysis
- Base Graphics in R
- Linear Regression
- Logistic Regression
- Hands-on Exercises

Module 4 Overview

Topics:

- Decision Trees
- Clustering
- Model Diagnostics
- Hands-on Exercises

Module 5 – Summary

- Skills Review