R Programming Training Curriculum

STRUCTURE

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"Become a R programming expert by joining our comprehensive Training Program at Croma Campus under best industry experts"

About Croma Campus:

Croma Campus Training & Development Private Limited is an education platform since 2010 providing rigorous industry-relevant programs designed and delivered in collaboration with world-class faculty and industry.

- Hands-On Live Projects
- Simulation Test Papers
- Industry Cases Studies
- 61,640+ Satisfied Learners
- 140+ Training Courses
- 100% Certification Passing Rate
- Live Instructor Classroom / Online Training
- 100% Placement Assistance

Course Objectives:

- Learn the most popular tool for data analytics
- Start with the R basics, to advance Programming in R
- Prepare yourself for the R programming certification exam and clear your certification exam in the first attempt mostly.
- Add an attractive credential in your resume that is really appreciated by Companies.
- Improve your overall R programming skills and explore more job prospects with better salary packages.
- Boost your social media profiles especially LinkedIn by adding this certification and become one of the top persons to be chosen by industries.

Course Description:

This course is suggested for all those novices and specialists who are keen on working in the analytics industry. R is suitable for all IT professionals like Big data analytics, Business analytics, scientific research, statistical reporting, Econometrics, social science, business intelligence, and business development. Researchers who perform data analysis with higher dimensional graphs. Students who need R for their courses.

Prerequisite: It is not necessary to have any prior knowledge of R.

R is now well thought out to be not just the most popular open-source analytic tool but the most popular analytics tool in the world.

Croma Campus Training Program Deliverables:

- **Session Recordings** - Original Class Room Voice & Video Recording
- **Training Material** - Soft Copy Handbooks
- **Assignments** | Multiple Hands-on Exercises
- **Test Papers** - We provide **Practice Test** as part of our course to help you prepare for the actual certification exam.

- **Live Case Studies**
- **Live Projects** - Hands-on exercises and Project work. You will work on real time industry-oriented projects and assignments for each module to practice.
- **Key focus on Hands-on exercises and Project work**. You will work on real time industry-oriented projects.
- Faculty with more than **10+ Years of Experience** in the Industry.
- **Technical Resume Designing & Job Assistance:** With more than 100+ Clients across the Globe and we help learners to get a good job in their respective field. We also help learners with resume preparation.
- **Interview Q&A**
- **About Croma Campus Training Certificate:** Croma Campus will provide you with an industry-recognized (Certified by **ISO 9001:2015** & **E-Cell IIT Jodhpur**) course completion certificate which has lifelong validity.
- **How I Unlock my Croma Campus Certificate:** Attend Complete Batch & Submit at least One Completed Project.

Course Content:

Module 1: Overview

- History of R
- Advantages and disadvantages
- Downloading and installing
- How to find documentation?

Module 2: R Programming Basics

- Using the R console and R Studio
- Getting help
- Learning about the environment
- Writing and executing scripts
- Object oriented programming
- Introduction to vectorised calculations
- Introduction to data frames
- Installing and loading packages
- Working directory
- Saving your work

Module 3: Variable types and data structures in base R

- Variables and assignment
- Data types
- Numeric, character, Boolean, and factors
- Data structures
- Vectors, matrices, arrays, data frames, lists
- Indexing, sub-setting
- Assigning new values
- Viewing data and summaries

- Naming conventions
- Objects

Module 4: Getting data into the R environment

- Built-in data
- Reading data from structured text files
- Reading data using ODBC

Module 5: Data frame manipulation

- Introduction to tables, enhanced data frames
- Renaming columns
- Adding new columns
- Binning data (continuous to categorical)
- Combining categorical values
- Transforming variables
- Handling missing data
- Merging datasets together
- Stacking datasets together (concatenation)

Module 6: Handling dates in R

- Date and date-time classes in R
- Formatting dates for modeling

Module 7: Exploratory Data Analysis (Descriptive Statistics)

- Continuous data
- Distributions
- Quantiles, mean
- Bi-modal distributions
- Histograms, box-plots
- Categorical data
- Tables
- Bar plots
- Group by calculations
- Split-apply-combine
- Reshaping and pivoting data in R (long to wide with aggregation)
- Melt and cast

Module 8: Working with text data

- Finding and matching patterns in text
- Stringer package for text manipulation
- Introduction to regular expressions in R
- Categorical data wrangling with forcats

Module 9: Control flow & functions

- Truth testing
- Branching
- Looping
- Functions
- Parameters
- Return values
- Variable scope
- Exception handling
- Applying functions across dimensions
- Sapply, lapply, apply
- Programming with map and purr

Module 10: Graphics in R Overview

- Base graphics system in R
- Scatterplots, histograms, bar charts, box and whiskers, dot plots
- Labels, legends, titles, axes
- Exporting graphics to different formats

Module 11: Advanced R graphics

- Understanding the grammar of graphics
- Quick plots (qplot function)
- Building graphics by pieces (ggplot function)
- Understanding geoms (geometries)
- Linking chart elements to variable values
- Controlling legends and axes
- Exporting graphics

Module 12: Inferential Statistics

- Bivariate correlation
- T-test and non-parametric equivalents
- Chi-squared test

Module 13: General Linear Regression Models in R

- Understanding formulas
- Linear and logistic regression models
- Regression plots
- Confounding / interaction in regression
- Evaluating residuals
- Scoring new data from models (prediction)
- Useful plots from regression models

Module 14: Placement Guide

- Tips to clear an Interview
- Common Interview questions and answers
- R programming Interview Questions and Answers
- Resume Building Guide
- Attempt for the related Global Certification Exam
- Earn Credentials and Start applying for Jobs