Introduction to R Programming for Data Science & Analytics (TTDS6683)

Category: Software Development & Programming | **Vendor:** Trivera Tech

Duration: 24.00 hours (3 days) **19.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

R is a functional programming environment for business analysts and data scientists. It's a language that many non-programmers can easily work with, naturally extending a skill set that is common to high-end Excel users. It's the perfect tool for when the analyst has a statistical, numerical, or probabilities-based problem based on real data and they've pushed Excel past its limits. This course is a comprehensive hands-on look at the common scenarios encountered in analysis and presents practical solutions. In this course, special attention is paid to data science theory including AI grouping theory. A discussion of using R with AI libraries like Madlib are included.

About This Course

R is a functional programming environment for business analysts and data scientists. It's a language that many non-programmers can easily work with, naturally extending a skill set that is common to high-end Excel users. It's the perfect tool for when the analyst has a statistical, numerical, or probabilities-based problem based on real data and they've pushed Excel past its limits. This course is a comprehensive hands-on look at the common scenarios encountered in analysis and presents practical solutions. In this course, special attention is paid to data science theory including AI grouping theory. A discussion of using R with AI libraries like Madlib are included.

Who Should Attend

This course, geared for Data Analyst and Data Scientists who need to learn the essentials of how to program in R. Incoming students should have prior experience working with Excel or SAS, and should know the basics of SQL. Students should have intermediate-level experience in their field, and prior experience working with programming languages.

Prerequisites & Entry Requirements

General Prerequisites:

This course, geared for Data Analysts and Data Scientists who need to learn the essentials of how to program in R. Students should have intermediate-level experience in their field, and prior experience working with programming languages.

Learning Outcomes

Upon successful completion of this course, participants will be able to:

This course provides indoctrination in the practical use of the umbrella of technologies that are on the leading edge of data science development focused on R and related tools. Working in a hands-on learning environment, led by our expert practitioner, students will learn R and its ecosystem, and where it’s a better a tool than Excel.

This course is approximately 50% hands-on, combining expert lecture, real-world demonstrations and group discussions with machine-based practical labs and exercises. Our engaging instructors and mentors are highly experienced practitioners who bring years of current 'on-the-job' experience into every classroom. Working in a hands-on learning environment, guided by our expert team, attendees will learn about and explore:

R Language and Mathematics

How to work with R Vectors

How to read and write data from files, and how to categorize data in factors

How to work with Dates and perform Date math

How to work with multiple dimensions and DataFrame essentials

Essential Data Science and how to use R with it

Visualization in R

How R can be used in Spark (Optional / Overview)

Detailed Course Outline

From Excel or SAS to R (Optional)

- Common challenges with Excel / SAS
- The R Environment
- Hello, R

Working with R Studio

- Rshiny
- Rpresentations
- Rmarkdown

R Basics

- Simple Math with R
- Working with Vectors
- Functions
- Comments and Code Structure
- Using Packages

Vectors

- Vector Properties
- Creating, Combining, and Iteratorating
- Passing and Returning Vectors in Functions
- Logical Vectors

Reading and Writing

- Text Manipulation
- Factors

Dates

- Working with Dates
- Date Formats and formatting
- Time Manipulation and Operations

Multiple Dimensions

- Adding a second dimension
- Indices and named rows and columns in a Matrix
- Matrix calculation
- n-Dimensional Arrays
- Data Frames
- Lists

R in Data Science

- AI Grouping Theory
- K-means
- Linear Regression
- Logistic Regression
- Elastic Net

R with MadLib

- Importing and Exporting static Data (CSV, Excel)
- Using Libraries with CRAN
- K-means with Madlib
- Regression with Madlib
- Other libraries

Data Visualization

- Powerful Data through Visualization: Communicating the Message
- Techniques in Data Visualization
- Data Visualization Tools
- Examples

Databases, Data lakes & Additional Topics

- Building connections to Databases and Data lakes, for both Python and R (using Hive server)
- Methods to query data from database and data lakes, for both Python and R
- Creating and passing macro variables. Specifically, R sprint, paste, paste0, and paste3 (not sure of the equivalent in Python).

R with Hadoop

- Overview of Hadoop
- Overview of Distributed Databases
- Overview of Pig
- Overview of Mahout
- Exploiting Hadoop clusters with R
- Hadoop, Mahout, and R

Business Rule Systems

- Rule Systems in the Enterprise
- Enterprise Service Busses
- Drools & Using R with Drools

R with AWS

- Best practices for working with AWS (completely outside of R and Python)

, Session: Data Science Essentials

Data Science

Process of Doing Data Science

Session: Introducing R

R Essentials

Variables and Types

Control Structures (Loops / Conditionals)

R Scalars, Vectors, and Matrices

Defining R Vectors

Matrices

String and Text Manipulation

Character data type

File IO

Lists

Functions

Introducing Functions

Closures

lapply/sapply functions

DataFrames

Session: Intermediate R

DataFrames and File I/O

Reading data from files

Data Preparation

Built-in Datasets

Visualization

Graphics Package

plot() / barplot() / hist() / boxplot() / scatter plot

Heat Map

ggplot2 package (qplot(), ggplot())

Exploration With Dplyr

Session: Analytics With R

Statistical Modeling With R

Statistical Functions

Dealing With NA

Distributions (Binomial, Poisson, Normal)

Data Exploration

Regressions

Linear Regressions

Logistic Regressions

Text Processing (tm package / Wordclouds)

R and Big Data

Additional Course Details

Nexus Humans Introduction to R Programming for Data Science & Analytics (TTDS6683) training program is a workshop that presents an invigorating mix of sessions, lessons, and masterclasses meticulously crafted to propel your learning expedition forward.

This immersive bootcamp-style experience boasts interactive lectures, hands-on labs, and collaborative hackathons, all strategically designed to fortify fundamental concepts.

Guided by seasoned coaches, each session offers priceless insights and practical skills crucial for honing your expertise. Whether you're stepping into the realm of professional skills or a seasoned professional, this comprehensive course ensures you're equipped with the knowledge and prowess necessary for success.

While we feel this is the best course for the Introduction to R Programming for Data Science & Analytics (TTDS6683) course and one of our Top 10 we encourage you to read the course outline to make sure it is the right content for you.

Additionally, private sessions, closed classes or dedicated events are available both live online and at our training centres in Dublin and London, as well as at your offices anywhere in the UK, Ireland or across EMEA.

Frequently Asked Questions

Q: What delivery options are available for Introduction to R Programming for Data Science & Analytics (TTDS6683)?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: How many CPD hours does this course provide?

The 3-day Introduction to R Programming for Data Science & Analytics (TTDS6683) course provides up to 19.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Introduction to R Programming for Data Science & Analytics (TTDS6683) training?

The training takes place over 3 day(s), with each day lasting approximately 24.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Introduction to R Programming for Data Science & Analytics (TTDS6683)?

Yes, we provide corporate training, dedicated training, and closed classes for Introduction to R Programming for Data Science & Analytics (TTDS6683). Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: R Programming

Q: Why choose Nexus Human for Introduction to R Programming for Data Science & Analytics (TTDS6683)?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Introduction to R Programming for Data Science & Analytics (TTDS6683) training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

Nexus Human

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