From SAS to R: A Course for SAS Programmers & Biostatisticians

Thomas Neitmann, Effective Statistician Academy

Why Join this Course?

- **Seamless Transition**: Moving from SAS to R can be challenging. This course is meticulously designed to guide you through this transition effortlessly, ensuring you adapt your existing skills to the world of R programming.

- **Relevant to Your Career**: As a clinical statistician or programmer, you know the importance of staying current in your field. Learning R opens up a world of possibilities for advanced statistical analysis, data visualization, and clinical trial reporting, making you an invaluable asset to any organization.

- **Practical Focus**: The course doesn't just teach you the theory; it will give you hands-on experience with real-world clinical trial data. You'll be able to apply your newfound R skills immediately, enhancing your job performance and career prospects.

- **Comprehensive Curriculum**: The course covers everything from the basics of R programming to advanced clinical data analysis techniques. You'll learn how to efficiently process, analyze, and report on clinical trial data using R.

- **Expert Guidance**: The instructor is an experienced Data Scientist who has helped many professional making the SAS to R transition. He understands the unique challenges you face and will provide you with expert guidance every step of the way.

- **Career Advancement**: With R proficiency under your belt, you'll be in high demand in the clinical research industry. This course is your gateway to new career opportunities and the potential for higher earnings.

Course Dates

The course consists of six modules which will take place on the following dates (starting at 10 am CET):

- September 7th

- September 28th

- October 12th

- October 26th

- November 16th

- November 30th

Not able to join live? Don't worry! If you sign up you'll get live time access to the recording and will still be able to join the "office hours" and ask questions about the content.

Course Syllabus

1. A Gentle Introduction to R

2. Data Manipulation

3. Functions & Unit Testing

4. Data Visualization

5. Clinical Summary Tables

6. Statistical Modelling

Module 1: A Gentle Introduction to R

- What is R? What is RStudio?

- Contrasting SAS to R

- Browsing Documentation

- Installing and loading packages

- Importing & exporting Datasets

- Exploratory data analysis

- Best practices for setting up and managing R projects

- Basic data manipulation (selecting columns, filtering rows, sorting, creating new columns)

Module 2: Data Manipulation

Content

- Aggregating Datasets by Groups
- Merging Datasets
- Transposing Datasets
- Date Handling
- String Processing

Packages

- {dplyr}
- {tidyr}
- {admiral}
- {lubridate}
- {stringr}

Module 3: Functions & Unit Testing

Content

- Differences and similarities between SAS macros and R functions
- Writing user defined functions
- Documenting functions
- Creating unit tests

Packages

- {testthat}
- {roxygen2}

Module 4: Data Visualization

Content

- Line Charts
- Bar Charts
- Scatter Plots
- Box Plots
- Kaplan-Meier Plots

Packages

- {ggplot2}
- {ggsurvfit}
- {patchwork}
- {ragg}

Module 5: Clinical Summary Tables

Content

- Demographic Tables

- Occurrence Tables (e.g. Adverse Events)

- By Visit Tables (e.g. Labs)

- Change from Baseline Tables (e.g. Vital Signs)

- Shift Tables (e.g. ECG Abnormalities)

Packages

- {rtables}

- {flextable}

Module 6: Statistical Modelling

Content

- Linear Regression
- Survival Analysis
- Mixed Models for Repeated Measures (MMRMs)

Packages

- {stats}
- {survival}
- {mmrm}