



Day One: Introduction to R

Date:

Venue

Ipswich HQ
Suffolk Constabulary
Police Headquarters
Martlesham Heath
Ipswich
Suffolk
IP5 3QS

Agenda

Day One – Introduction to R

9.00 Registration

9.15 – 9.30 Introduction to the session

9.30 – 10.00 R-syntax, data structures and types

10.00 – 11.00 Data import (from csv, txt, and excel)

11.00 – 11.15 Break

11.15 – 12.15 Creating, amending, exporting data frames

12.15 – 12.45 Lunch

12.45 – 13.15 Type coercion

13.15 – 14.30 Loops and conditions

14.30 – 15.00 Summary and close





Day Two: Statistical Analysis in R

Date:

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Agenda

Day Two – Statistical Analysis in R

9.00 Registration

9.15 – 9.30 Introduction to the session

9.30 – 10.00 Functions, packages, libraries

10.00 – 11.00 Visualizing data

11.00 – 11.15 Break

11.15 – 12.15 Correlations and differences in means

12.15 – 12.45 Lunch

12.45 – 13.15 Regression

13.15 – 14.30 Prediction and assessing prediction accuracy

14.30 – 15.00 Summary and Close



Summary

Day One

- Intro. to R and R Studio
- Different data structures in R, building matrix and arrays
- Importing data from excel, csv, txt
- Creating, amending and exporting dataframes
- For Loops, If Statements
- Coercion of data

Introduction to R
Statistical Analysis in R

Day Two

- Statistical analysis techniques and tools
- Functions
- Correlation and regression
- Models such as predictive analysis

Day One

- Intro. To SQL
- Key components of SQL Server
- Single table SELECT statements
- Multi-table SELECT statements
- DML statements
- DDL statements

Introduction to SQL
The Application of SQL

Day Two

- Queries that aggregate data
- Sub-queries
- Creating/implementing views
- Using set operators to combine query results
- Creating/implementing stored procedures
- Adding programming constructs such as variables, conditions, and loops to T-SQL code

Day One

- Intro to Python and Jupyter Notebook
- Different data structures in Python, building matrix and arrays
- Importing data from excel, csv, txt
- Creating, amending and exporting Data Frames

Introduction to Python
The Application of Python

Day Two

- Practical application of Python
- For Loops, If Statements
- Coercion of data types





Format

A series of interactive workshops providing delegates with introductory to intermediate level knowledge tailored to the public sector.

Software Requirements

All delegates will need to download R:

- 1) Pick (<https://cran.r-project.org/mirrors.html>) either University of Bristol or Imperial College London as download mirror
 - a. Check whether it is possible to install libraries (open R and type: `install.packages("dplyr")`)
- 2) Click download R for Windows, Linux or Mac as appropriate

All delegate will also need to download RStudio:

- 1) <https://www.rstudio.com/products/rstudio/download/>
- 2) Pick the Installer for your operating system

Data: we will use the "non western immigrants" data provided via usb.

Speaker Biography

Dr xxx, xxx

For the full list of xxx publications and to find out more about his/her work please visit:

Dr xxx has a particular interest in:

xxx