

Courses 2016-17

October 24-28, 2016 (5 sessions) Time: 09:30 - 11:30 (a total of 10 hours)

BCAM Mazarredo 14, 48009 Bilbao, Basque Country, Spain

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INTRODUCTION TO STATISTICAL MODELLING IN R

This course is an introduction to statistical software R. The course will introduce student to the basics of using R for statistical programming, computation, graphics, and modelling.

Objectives

- Use R for statistical programming, computation, graphics, and statistical modelling.
- Write functions in and use R in efficient way,
- Perform basic statistical analysis and basic statistical models.

Prerequisites

There are no formal prerequisites, but some basic knowledge of statistics is expected. The intended audience is anyone who needs a flexible statistical environment for their research. Any prior knowledge of R is not expected.

Programme

1. Introduction to the R language
 - 1.1. Installation and libraries
 - 1.2. RStudio environment
 - 1.3. Reading and writing data
 - 1.4. Basic arithmetic and matrix operations
 - 1.5. Data frames and lists
 - 1.6. Introduction to functions
2. Graphics
 - 2.1. Basic plotting
 - 2.2. Advanced plotting
3. Standard statistical models in R
 - 3.1. Basic statistics analysis in R
 - 3.2. Probability distributions
 - 3.3. Linear regression and ANOVA
 - 3.4. Generalized Linear Models
4. Advance statistical modelling
 - 4.1. Linear mixed effects Models
 - 4.2. Flexible regression
5. Case studies

*Registration is free, but inscription is required before 12th October: So as to inscribe send an e-mail to roldan@bcamath.org.

Student grants are available. Please, let us know if you need support for travel and accommodation expenses.