Collegio Carlo Alberto

UNIVERSITÀ DEGLI STUDI DI TORINO

MaDaS
Master in Data Science for Complex Economic Systems

CODING IN R

PAOLO RACCA
paolo.racca@unito.it
paul.racca@gmail.com

Learning Objectives

The module is aimed at providing the students with a basic knowledge of the R software. At the end of the module, the students should possess a basic set of tools to undertake their own data analysis in most standard cases. Moreover, they should be comfortable exploring new R packages, when required, for more advanced applications.

Course Content

The module is an introduction to the R language and mainly covers the following topics:
1) basic data types
2) data structures
3) control structures/loops and functions
4) reading and writing data
5) functions related to classical probability distributions
6) tools for data manipulation (dplyr package) and data visualization.

Course Methodology

The course will be held in the computer lab. Students will be taught how to write their own code through concrete examples. Students are encouraged to actively interact in class and will be asked to work on problem sets assigned during the lessons.

Reference

- J H Maindonald, Using R for Data Analysis and Graphics
- Garrett Grolemund and Hadley Wickham, R for Data science
- R software: http://www.r-project.org/

Code examples will be presented during the course.

Course Evaluation

Students will be evaluated (pass/fail) on the basis of group projects that will be individually discussed in detail with each of them. Projects will be assigned during the course.

About the Instructor - Junior Despina Fellow

Ph.D. candidate at Vilfredo Pareto Doctorate in Economics. Paolo got his Master's degree in Physics from the University of Turin and a second level Master's degree in Finance from the University of Turin and Collegio Carlo Alberto. After working in the financial services industry for a couple of years, he started his PhD in Economics in October 2013. His interests range from Complex Systems and Artificial Intelligence to Network Analysis and Agent-based simulation in Economics. He is currently adopting a distant reading approach to the analysis of knowledge evolution in the economic discipline