Preliminary course for MSc/PhD 2023/2024

R Programming

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I. Syllabus

Module 1 – The R language, RStudio, basic commands and arithmetic calculus.

Module 2 – Data structures.

Module 3 – Reading in data & Writing data to files.

Module 4 – Functions, Loops and flow control.

Module 5 – Computational simulation.

Module 6 – Optimization.

Module 7 – Probability distributions and Parametric inference.

Module 8 – Regression models.

Module 9 – Times series.

Module 10 – Graphics in R.

Module 11 – R Markdown.

II. Texts:

1. W.J. Braun, D.J. Murdoch, "A First Course in Statistical Programming with R", Cambridge University Press, Cambridge, 2016. ISBN 978-1-107-57646-9.

2. J. Maindonald, W.J. Braum, "Data Analysis and Graphics Using R – an example-based approach", 3rd edition, Cambridge University Press, 2011. ISBN: 9780521762939.