UNIVERSITÄT LUZERN

Information Visualizations in R

Tutor	Dr Nicolas Attalides
Organization	Digital Skills, University of Lucerne
Language	English
ECTS-Points	1
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Dates and time	Online Friday 1st December 2023 (Day 1) Saturday 2nd December 2023 (Day 2) 09:30 – 16:30

Content	The R programming language offers a huge variety of statistical analysis solutions with over 16000 packages available to install and continues to expand in areas like visualization, text analysis and machine learning. This course focuses on the graphical solutions that the R programming language can provide through a powerful R package called {ggplot2}. This package follows the "The Grammar of Graphics" approach and enables users to create visualizations that summarise data in an elegant and informative way. This course is split into two parts: Part 1: • Introduction to basics in R and basic data manipulations • Introduction to {ggplot2} package and constructing visualizations Part 2: • Univariate type graphs for quantitative & qualitative data types • Bivariate and multivariate type graphs • Creating information visualizations for research • Customising graphs (axis, colours, labels etc.) • Building interactive graphs
Prerequisites/ Materials	For Part 1, no prior R knowledge is expected. For Part 2, course participants are expected to have some basic knowledge of the R programming language with some basic data analysis skills such as data manipulation. Participants should have their own laptop with R, RStudio and the relevant packages installed. Instructions for the technical setup will be circulated by the instructor before the course. Learning material such as slides, code and solutions to exercises will be circulated by the instructor after the course.
Teaching method	This course includes a range of activities such as demos, live-coding sessions, interactive quizzes, and practical exercises to work individually or in a group. Active participation and contribution are recommended.