# UNIVERSITÄT LUZERN

# Introduction to Visualisations in R

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| **Tutor** | Dr Nicolas Attalides |
| **Organization** | Digital Skills, University of Lucerne |
| **Language** | English |
| **ECTS-Points** | |
| **Contact** | nadia.buehler@unilu.ch |
| **Dates and time** | Online<br>Friday 17th May 2024 (Day 1)<br>Saturday 18th May 2024 (Day 2)<br>09:30 – 16:30 |

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| **Content** | The R programming language offers a huge variety of statistical analysis solutions with over 20,000 packages available to install and continues to expand in areas like visualization, text analysis and machine learning.<br><br>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.<br><br>The course is structured to cover the following topics:<br>• A quick refresher in R (including factors) data manipulations and general workflow<br>• Introduction to {ggplot2} package and constructing visualisations<br>• Univariate type graphs for quantitative & qualitative data types<br>• Bivariate and multivariate type graphs<br>• Creating information visualisations for research<br>• Customising graphs (axis, colours, labels etc.)<br>• Building interactive graphs |
| **Prerequisites/ Materials** | Course participants are expected to have some basic knowledge of the R programming language with some basic data analysis skills.<br><br>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. |