

Introduction to Statistics in R

Tutor	Dr Nicolas Attalides
Organization	Digital Skills, University of Lucerne
Language	English
ECTS-Points	
Contact	nadia.buehler@unilu.ch
Dates and time	Online Friday 7 th June 2024 (Day 1) Saturday 8 th June 2024 (Day 2) 9:30 – 16:30

<p>Content</p>	<p>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.</p> <p>This 2-day course covers some of the common areas in statistics and combines the use of the R programming language in performing statistical analysis. We dummy data to demonstrate the applications of statistical concepts in R and participants will learn how to recognise the appropriate methodology needed to apply for their own individual research.</p> <p>The course is structured to cover the following topics:</p> <ul style="list-style-type: none"> • A short reminder on how to perform data manipulations and create data visualisations. • Summary/Descriptive statistics • Univariate and Bivariate type plots • Populations, Samples and random variables • Statistical distributions (Normal, Poisson and Binomial) • Confidence intervals • Defining a statistical test • Statistical tests (t-test, paired t-test, proportion test) • Statistical tests (KS, Mann Whitney U test and F test) • ANOVA • Simple/Multiple linear regression model
<p>Prerequisites/ Materials</p>	<p>Basic skills in programming with R. Ideally attended the “Introduction to R” course or have been coding in R for more than 6 months. This course does not require any previous knowledge of statistics.</p> <p>Participants should have their own laptop with R, Rstudio 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.</p>
<p>Teaching method</p>	<p>This course includes a range of activities such as live-coding sessions, interactive quizzes and practical exercises to work individually or in a group. Active participation and contribution are highly recommended.</p>