

Title	Introduction to statistics with R (part I): data description and basic inference
Teacher	Davide Paolo Bernasconi, Bicocca Bioinformatics Biostatistics and Bioimaging Centre - B4, School of Medicine and Surgery, University of Milano Bicocca
Language	English
Short description	<p>The course aims to provide basics notions of statistics to plan and analyze the results of a scientific study or experiment.</p> <p>At the end of the course the participants should be able to choose the most suitable design for their study, compute the optimal sample size, perform a graphical and tabular description of the data collected and analyze the association between variables through proper measures and hypothesis testing.</p>
CFU	2 CFU (16 hours teaching)
Hours	16
Participants (min/max)	(20/40)
Calendar	<p>The course will be taught on-line and will consist of both asynchronous and synchronous moments. All the material and the Webex meeting links will be published on a dedicated page on the UNIMIB Moodle e-learning platform.</p> <p>Monday January 11th 2021 Videolectures, slides, R handouts, R practicals with datasets and codes will be loaded on the course page at 10 am. The following topics will be covered: - Planning a study: types of designs - Data summaries: descriptive measures and graphical representations - Introduction to hypothesis testing - Parametric tests for quantitative variables</p> <p>Friday January 15th 2021 Live discussion on statistical theory and implementation of the analysis in R. The event will take place on the Webex platform from 10 to 12 am.</p> <p>Monday January 18th 2021 Videolectures, slides, R handouts, R practicals with datasets and codes will be loaded on the course page at 10 am. The following topics will be covered: - Non-parametric tests for quantitative variables - Tests for categorical variables - Correction for multiple comparisons - Sensitivity, specificity and the ROC curve</p> <p>Thursday January 21st 2021 Live discussion on statistical theory and implementation of the analysis in R. The event will take place on the Webex platform from 10 to 12 am.</p>
Evaluation:	The final exam will consist on multiple-choice questions. The exam will be made available on the course page from Friday January 22nd at 12 am and must be completed by Tuesday January 26th at 12 pm.