

Advanced Module

Research Methods in International Health: An introduction to R and the environment RStudio

Every Wednesday in the time interval from Mai 10th to June 28th, 10:00 - 13:00 CEST
Via Zoom, information available for the participants on Moodle after registration

Wednesday, Mai 10	Why learning <i>R(Studio)</i>?	Noemi Castelletti
10:00 – 10:30	Welcome & Greetings	
10:30 – 11:00	Agenda	
11:00 – 11:30	Explanation of organisational tasks	
11:30 – 12:00	Learning objectives & Assessment	
12:00 – 13:00	Explanation of datasets	
Wednesday, Mai 17	Getting started with <i>R</i> and <i>RStudio</i>	Noemi Castelletti
	Install <i>R</i> and the environment <i>RStudio</i> on the personal computer Read-in .csv and .xlsx files in <i>RStudio</i> Create a basic data-description with the function <i>summarise()</i> Reproduce the idea of the <i>R</i> -package <i>dplyr</i>	
10:00 – 11:15	Question round based on the video recording Activities to practice reading in datasets in <i>RStudio</i> , first simple data statistics	
11:15 – 12:15	Group-workshops to elaborate new code (<i>Padlet / Miro</i>)	
12:15 – 13:00	Final wrap-up with lecture evaluation and Q&A session	
Wednesday, Mai 24	Data-operations: shaping the datasets	Noemi Castelletti
	Define the following data-operations: filter, arrange, select mutate, %>% (piping symbol), group, pivot and merge	
10:00 – 11:15	Question round based on the video recording Activities to practice data operations on real data	
11:15 – 12:15	Group-workshops to elaborate new code (<i>Padlet / Miro</i>)	
12:15 – 13:00	Final wrap-up with lecture evaluation and Q&A session	
Wednesday, Mai 31	Application of data operations	Noemi Castelletti
	Practicing the data-operations to arrange the data for analysis	
10:00 – 11:15	Question round based on the exercises	
11:15 – 12:15	Presentation of students' work	
12:15 – 13:00	Final wrap-up with lecture evaluation and Q&A session	

Wednesday, June 07	Plotting data statistics Reproduce the idea of the R-package ggplot2; Generate plots like: scatterplot, line chart, histogram, density distribution, boxplot	Noemi Castelletti
10:00 – 11:15	Question round based on the video recording. Which plot should I choose?	
11:15 – 12:15	Group-workshops: activities to practice data-plotting	
12:15 – 13:00	Final wrap-up with lecture evaluation and Q&A session	
Wednesday, June 14	Statistical tests and linear regression Applying test like: Kruskal Wallis and Dunn's Post Test, depict the p-value in the graph Generate a linear regression, plot the result of the linear regression in the graph	Noemi Castelletti
10:00 – 11:15	Question round based on the video recording.	
11:15 – 12:15	Group-workshops: statistical tests and linear regression	
12:15 – 13:00	Final wrap-up with lecture evaluation and Q&A session	
Wednesday, June 21	Generating a report using RStudio Generate a report of the data analysis Summarize the data-analysis results Generate a .pdf file using <i>RStudio</i> Report the summary of the data-analysis on a .pdf	Noemi Castelletti
10:00 – 11:15	Question round based on the video recording. Examples presented by the lecturer	
11:15 – 12:15	Group-workshops, prepared by the lecturers Practicing part	
12:15 – 13:00	Final wrap-up with lecture evaluation and Q&A session	
Wednesday, June 28	Closing session – Feedback	Noemi Castelletti
10:00 – 10:30	Q&A session	
10:30 – 11:00	Lecture evaluation	
11:00 – 12:00	Final exam	
12:00 – 13:00	Closing remarks	