

# Logistics

Welcome to the course on advanced data analysis with R. Over the next 12 sessions we will revise spatial data, random variables and linear models. - Cover some more programming and package development with R. Introduce you to time series and mixed effects models.

## Instructors:

- Sebastian Hanss (programming in R)
- Kai Husmann (time series data)
- Johannes Signer (jsigner@uni-goettingen.de; all other topics)

If you have any questions, feel free to get in touch with us.

## When and where:

Most Wednesday during term (see schedule) from 8:30 to approx. 11:45 in FSR 3.1.

## What you need

Please bring your own laptop with a current version of R and RStudio and ideally git.

## Exam

After the term there will be a 20 min oral exam. You are asked to present one of the exercises (assigned to you at random) and we will talk about the exercise and the course.

## Schedule

Our tentative schedule is as follows:

Session	Topic	Who
1 (16. 4)	Getting started, working with spatial data in R	Johannes
2 (23.4)	Programmin in R, loops, functions, git	Sebastian
3 (30.4)	Random variables and statistical distributions	Johannes
4 (7.5)	ML and Schools of inference (Bayes vs Frequentist)	Johannes
5 (14.5)	Linear Model (revision)	Johannes
6 (21.5)	Beyond the linear Model (GLMs and GAMs)	Johannes
- (28.5)	<i>Mid term</i>	
7 (4.6)	Time series analysis 1 (Data/ distributional properties, Stationarity)	Kai
- (11.6)	<i>Dies Academicus</i>	-
8 (18.6)	Time series analysis 2	Kai
9 (25.6)	Accounting for repeated measurements	Johannes
10 (2.7)	Time series analysis 3	Kai
11 (9.7)	Build your own R package, interacing with C++	Sebastian
12 (16.7)	Accounting for space and time in GLMMs and GAMs	Johannes

## Advanced Data Analysis with R: Outline

### 1. Statistical Modelling of spatio-temporal Data

### Working with data in R & Research Data Management

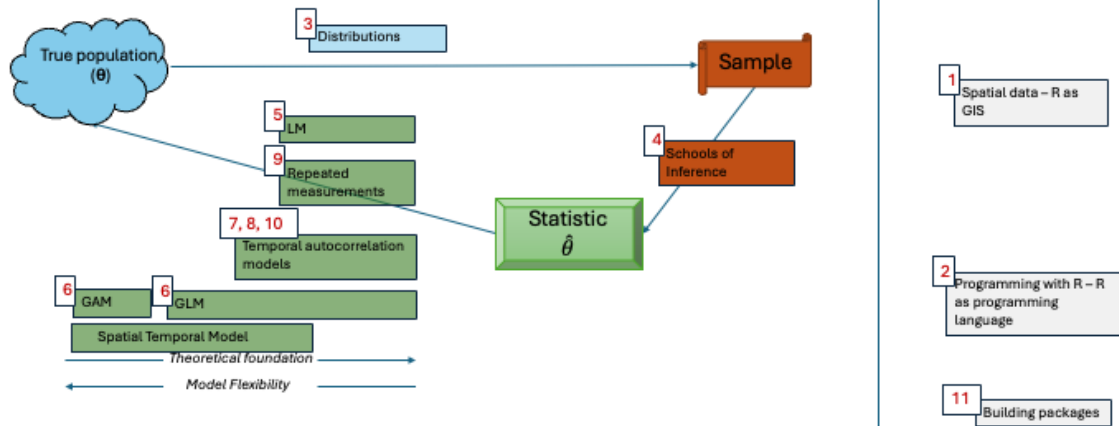


Figure 1: Overview