

Statistical software tools, fall 2013

Statistical software tools I + II, fall 2013

Lecturer

[Christian Benner](#)

Scope

- 5 credits and pass/fail for the beginner course in period I
- 5 credits and 1-5 grade for the advanced course in period II

Type

Advanced studies

Content scheme

1. **Beginner course in period I (slides for at home and weekly hands-on sessions)**
 - R environment and Bioconductor
 - LaTeX / Beamer
2. **Advanced course in period II (weekly hands-on sessions with discussion)**
 - High performance computing in R with C++ ([Rcpp](#)), parallel ([OpenMP](#)) and GPU computing ([MAGMA](#))
 - Efficient programming
 - Large data sets

Prerequisites

- **No prior knowledge of R is required for the beginner course.** However, an interest in computer programming and basic knowledge of statistics is helpful.
- The minimal prerequisites for the advanced course include mastering of the R environment, an interest in high performance computing with R as well as some basic knowledge of probability calculus, linear algebra and statistics .
- Availability of a laptop is desirable so that all software can be easily installed.

Lectures

Period I (02.09-17.10.2013) and period II (28.10-12.12.2013), Tuesday and Thursday 10-12 in computer class room C128 (~24 computers).

The beginner course starts on Thursday 05.09 in CK107 with an introductory session. **Note that we meet Wednesday instead of Tuesday in week 37 only.**

Exams

- Beginner course in period I: Mid-course computer exam for R and completion of weekly exercise as well as presentation with LaTeX at the end of period I
- Advanced course in period II: Participation in lectures and group discussions and project work/oral presentation

Moodle link

[Link](#)

Registration

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