Program: Foundations of data-driven health science

Teaching is in the form of "interactive lectures", where students follow instructions to complete specific learning tasks introduced by the lecturers.

Dates

Three days of teaching (Mon, Wed, Fri), possible starting dates: * Mon 4 September (week 36) * Mon 11 September (week 37)

Timetable

Each day from 9 am to 4 pm, with following breaks:

- 10:15 - 10:30
- 12:00 - 12:30 (Lunch)
- 14:14 - 14:30

Content

Day 1: The anatomy of a computer and data

- How are storage and computation achieved in modern computing devices?
- Terminal & Bash: telling the computer what to do (one of many "languages")
- Textual vs. binary files
- File system(s)
- Interactive development vs. scripts
- Introduction to variables and memory

Day 2: The anatomy and building blocks of a program

- Variable types and manipulations
- Basic control flow
- Memory usage
- Introduction to programming exercise

Day 3: Programming to gain insight into data

- Functions
- Arithmetic
- Efficient manipulation of large textual data blocks
- Examples and suggestions for further study

Programming exercise: extracting information from log files

- Event: target (in samples).
- Reaction: button press (in samples).
- Calculate reaction time in ms.
- Export in long format.