

Biostatistics 1 (Labs)

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Objectives

- ▶ Learn Git and GitHub
- ▶ Learn R
 - ▶ R and RStudio
 - ▶ Visualization: ggplot2
 - ▶ Data manipulations: dplyr, tidyr (data.table?)
 - ▶ Functions
- ▶ Simulations

Git

- ▶ Learn Git basics
- ▶ Use Git and GitHub for the class
- ▶ Learn about plain text documents (vs Microsoft word or other text processor)

ggplot2

- ▶ Introduction (base graphics and ggplot2)
- ▶ ggplot2
- ▶ examples

Data manipulations

- ▶ `tidyr`
- ▶ `dplyr`
- ▶ `data.table` (brief intro)

Functions

- ▶ Built-in functions in R
- ▶ Writing functions
- ▶ Scoping rules
- ▶ Debugging

Simulations

- ▶ Why simulation
- ▶ Simulation from probability distributions
- ▶ Simulation from models (LM and GLM)
- ▶ Random number seed and reproducibility
- ▶ Sampling