Statistics for biologists/BIOS15 2025

RE-EXAM

You can work on this exam between the 31.12.2025 at 0900 and the 14.01.2026 at 1600. You submit via Canvas.

The exam involves the analysis of a dataset, for which you will choose your own research questions that can be answered through statistical analysis of the available data.

Your report should be maximum 4 pages + an Appendix including the (clean and annotated!) analysis code

We will evaluate the reports based on the following points

a. Formulation of research question(s) (10%)
b. Choice, justification and presentation of the analysis methods (20%)
c. Presentation of results in text (20%)
d. Presentation of results in figures/tables (20%)
e. Interpretation/conclusions (20%)
f. Clarity of analysis code (10%)

If you have any (technical) questions, please write me an email and I will respond as quickly as possible.

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Good luck!

Dataset

The following data are from an experiment in which *Penstemon* plants from three populations were grown in an outdoor common garden. A number of phenotypic measurements were taken, and reproductive success was scored as a measure of fitness. The data comprise the following variables:

Pop	Population of origin
Block	Experimental block
flwsize	Flower size in mm
FlwDate	Flowering date (days since 1. January)
height	Plant height in cm
InflorLen	Inflorescence length in cm
flowers	Number of flowers
aborted	Number of aborted flowers
fruits	Number of fruits produced
fitness	Fitness (a composite measure based on fruit number and weight)
openflws	Number of simultaneous open flowers
tscent	Total floral scent emission (ng per liter per hour)

The following line will read the data (adjust the file path to where you keep the data file):

```
dat = read.table("penstemon.txt", header=T)
```