

LAB SESSION 9

Outline of lab session:

- follow-up from Lecture 9: repeatability and reproducibility (9L–11/12),
- Stata demonstrations¹ for the lecture examples,
- you work on the exercises on your own,
 - * add7:2; add9:1; add10:2,3; add10:1 (add9:2)
 - * note suggested order!
- discussion of home assignment 3, project, and more...

What you should be able to do after today's session...

- * recognise cross-over designs and discuss carry-over effects in design and analysis.
- * construct ANOVA table outlines for and analyse basic, balanced random effects designs.

¹ Notes on the software for random effects models:

- Minitab/SAS: the General Linear Model menu/`proc glm` give:
 - * correct ANOVA table and estimates of variance components,
 - * (least squares) means but no standard errors,only for balanced or almost balanced data,
- Stata: the `anova` command gives:
 - * by specific request (see do-files), a correct ANOVA table,
 - * no variance components or (least squares) means,only for balanced data,
- Stata/R: the `mixed` command/library `nlme` give: all statistics correctly for hierarchical data structures (possibly unbalanced),
- Minitab/SAS/R: Mixed Effects Model menu/`proc mixed`/library `lme4` give all statistics correctly.