

LAB SESSION 11

Outline of lab session:

- brief extra review of model checking using residuals (11L–19),
- Minitab for 2-way ANOVA and multiple regression¹ (with demos):
 - * 2-way table of descriptive statistics using `Stat-Tables-Descriptive Statistics`, enter outcome in submenu `Associated Variables`,
 - * brief analysis for balanced data: `Stat-ANOVA-Balanced ANOVA + Main Effects, Interaction Plots` menus based on means,
 - * detailed analysis: `Stat-ANOVA-General Linear Model`, for
 - estimates and means with SEs (in `Options` submenu),
 - extra menus for `Comparisons, Predict, Factorial Plots`,
 - * multiple regression (also) from `Stat-Regression` menus.
- individual work on the exercises, and time for questions...:
13:3,4,19,31; 26:7,8,33,37; 28:4; 11:15,16,17; 28:14; **final2019:2**; **home2003:4** (11:6,45; 13:15,16; 26:17,18,19),
- summary worksheet: S.9 (hand calculation); Moodle Quizzes 8-9.

Notes and questions for specific exercises:

- 11.15, 11.16, 11.17: description of dataset in solution for 11.15,
- 13.3, 13.4: we did part (a) in lecture 11, maybe limit to (b),
- 26.33: analyze also on square-root scale: compare the results and include a full post-ANOVA table analysis,
- home assign.2003:4: most detailed 2-way ANOVA examples in course,
- final2019:2 (recommended): exam question involving 2-way ANOVA.

¹ Stata: brief analysis by `Stat-Linear Models-ANOVA-Analysis` menu, using model formulae, or directly with `regress` and `anova` commands; for detailed analysis (Stata/R) see solution files.