



PhD Program in Plant Sciences: ECO 331: General Linear and Linear Mixed Models in R Workshop

Lecturers: Prof. Pascal Niklaus (Dept. of Evolutionary Biology and Environmental Studies, UZH)

Location: Irchel Campus

Dates: Mondays/Thursdays: 03.06./06.06./ 10.06./13.06./24.06./27.06.24; 9.00-17.00

Credit Points: 2

Course Description

In this 6-day blocked course, the participants will learn to analyse experimental and observational data with general linear and linear mixed models. The course will be held as workshop, with lecture-type parts introducing important concepts and exercises in which the participants will work on data sets provided or their own data. A key goal will be that the participants learn to recognize the essential structure of data sets and to implement them adequately in statistical models with fixed and random effects. Specifically, the course will deal with issues of experimental design, analysis of variance, hypothesis testing, variance components, models with multiple error terms as well as balanced and unbalanced data. (Note: it is important to understand that this course is not about generalized linear mixed models [GLMM, non-normal data], although it is possible to deal with such data in the projects)

Prior Knowledge:

The participants should have a reasonable prior knowledge of standard statistics and have completed an introductory course on analysis of variance or regression (or equivalent). This is an advanced course and experience with analysing own data is beneficial. The course participants also should be familiar with R and bring their own laptop with a working recent installation of the R software (<http://www.r-project.org>) including the libraries nlme, lme4, and lmerTest.

Number of Participants: Participation is limited to 12 people.

Individual Performance and Assessment:

In order to obtain the ECTS point, each participant is required to actively participate in the case-study work, discussions, and presentations during the course days.

Special Notes

This course is organized for PhD students of the Life Science Zurich Graduate School, with priority to students registered in the PhD Program in Ecology and Plant Sciences. Participating Master students will not be awarded ECTS credits unless agreed with the lecturer and the program coordinator prior to the course.

Course notes will be provided on OLAT

Registration:

For full registration send an e-mail to phdecology@ieu.uzh.ch, include your student number, surname, name, email address and your PhD program (!), and a short statement about where you are in your studies, about the data you will use during the course and what basic stats courses you have attended. As this is an advanced course, participants will be selected based on sufficient knowledge and own data.

Deadline to book the course: 01 June 2024, cancellations until 1 May 2024.