

Teaching applied statistics to students in natural sciences using the R Commander

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Statistical software has become an important part of teaching applied statistics on all levels of higher education. The assortment of available applications and packages is formidable, and choosing correctly can be a key to successful learning. At many universities different software has been used for the students that focus on statistics than those that have statistics as an obligatory subject in a study of biology, chemistry or other experimental sciences. Typically software with a graphical user interface and a limited set of statistical methods, e.g. *Minitab* or *SPSS*, is chosen for those who need easy access to basic analysis, while more advanced software with a programming based interface, e.g. *R*, is chosen for those in need of more flexible and adaptable analyses.

With the advent and continual expansion and refinement of *the R Commander* universities do not have to make this choice anymore as everything is available through *R*. At the Norwegian University of Life Sciences we are phasing out the other rigid and expensive programs. Through a local repository, <http://repository.umb.no/R>, and automatic updates of our own plug-in to *the R Commander*, **RcmdrPlugin.UMB**, we achieve instant distribution of the improvements and additions we make to our statistical toolbox. We continually adapt the plug-in to the courses we teach, tweaking the built in functions of *the R Commander* and adding what we need.

Utilizing the above set-up, students of natural sciences get a soft introduction to computer aided statistical analysis, they get used to seeing and interpreting code, and they use the same base as the students aiming for a statistical education. Teachers and researchers only have to relate to one software package, and they can use their expertise when adapting it to their needs and research. Finally, the institutes save money on expensive licenses.

In addition to this we have a dedicated course for teaching basic use of *R* for master and PhD students in need of customized analysis in their research. This has become very popular.