Applied Multivariate Statisitics

Spring 2013 – Markus Kalisch

Goals: Hands-on knowledge

- able to identify suitable method
- able to solve problem on the computer (software: R)
- able to interpret results
- know concepts of the involved methods

More theoretical alternative:

401-3626-00 V, Multivariate Statistics, Fall 2013
Prof. M. Maathuis

Tentative schedule

No.	Date	1st hour	2nd hour
1	18.2.	Introduction	Visualization 1
2	25.2.	Visualization 2	Exercise 1
3	4.3.	Imputation	Multiple Imputation
4	11.3.	MDS	Exercise 2
5	18.3.	PCA 1	PCA 2
6	25.3.	LDA	Exercise 3
7	8.4.	Expl. Factor An. 1	Revision
8	22.4.	Conf. Fact. An.	Exercise 4
9	29.4.	Cluster An. 1	Cluster An. 2
10	6.5.	Trees	RF
11	13.5.	Repeated Meas. 1	Repeated Meas. 2
12	27.5.	Exercise 5	Exercise 6, 7

Course material

- Homepage:
  http://stat.ethz.ch/education/semesters/ss2013/ams

- See Homepage for course notes, exercises, announcements, etc.

- We will mainly follow:
  B. Everitt & T. Hothorn, "An Introduction to Applied Multivariate Analysis with R", 2011
  (available online for free from within the ETH network; see homepage)

- We will use several other papers or book chapters from other books as a supplement

Excercises

- On indicated Mondays 14-15 or 13-15
  HG G 3 (this room)

Exam:

- 30 minutes oral exam in my office

- Content:
  Solve a case study with Rstudio on my computer
  Explain some concepts with pencil and paper

- You may bring a 1-page summary with you
  (DIN A4, two sided print; by hand or by computer)

Experiment: Screencasts

- I have some recorded screencasts, where I show how to apply certain methods using R (see homepage)

- Note, that they are not of super-high quality; e.g., they can in no way replace the lectures or exercises

- They should give you an additional source of information when preparing for the exam

- Questions?