Preliminary Schedule for the Module B2/ETX3 "Tools for complex data analysis" Ralf B. Schäfer, University Koblenz Landau 2019/20

| 21/10/19 Introduction: Data analysis, exploration and statistical modelling 28/10/19 Self-organized preparation and revisiting of teaching materials. Assignment: Datacamp Introduction to R. Note deadline! No class. 04/11/19 Linear regression model: Concept, calculation, assumptions and diagnosis; Confidence intervals 11/11/19 Assessing hypotheses and simulation-based approaches: Critical evaluation of the concept of p-values; r-test; Permutation, bootstrapping and cross-validation; Bias-variance trade-off 18/11/19 Supervised working on R exercises and with tutorials. Participation optional. Alternative: Self-organized preparation and revisiting of teaching materials. 25/11/19 Unity of the linear model, interaction terms and multiple linear regression I: ANOVA, ANCOVA, interactions 02/12/19 Multiple linear regression II: Modelling strategies and methods Exam 2 09/12/19 Supervised working on R exercises and with tutorials. Participation optional. Alternative: Self-organized preparation and revisiting of teaching materials. 16/12/19 Generalized linear model and log likelihood Exam 3 06/01/20 Supervised classification: Classification and regression trees 13/01/20 Introduction to multivariate analysis; Ordination and Principal Component Analysis (PCA) 20/01/20 Supervised working on R exercises and tutorials. Participation optional. Alternative: Self-organized preparation and revisiting of teaching materials. Multivariate multiple Regression (Redundancy Analysis – RDA); Dissimilarity metrics; Non-metric multidimensional scaling (NMDS) and Multivariate GLMs 03/02/20 Unsupervised classification (Cluster analysis) Theoretical exam: 9:45; Practical exam from 10:00-11:00 Exam 6 | Date | Topic | Exam |
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| Students without own computer → EIII 50 PC room I Students with own computer → CIII-148 PC room V | |
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