

t.AMSM - Advanced Methods in Statistical Modelling

Person responsible for the course: Andreas Ruckstuhl, rkst

Credits: 4

Valid for: 2011/2012

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Learning objectives:

The students are familiar with regression methods for non-normally distributed responses. They know on what principles they are based and can interpret the results of the fitting process. Furthermore, they can apply the discussed methods practically using a statistic software.

Course content:

Generalized linear and additive models (logistic, Poisson and gamma regression), Weibull regression, accelerated failure time models, censoring, hazard rate.

Many concepts of multiple linear regression do reemerge, but others are new. We will pay attention to

- model formulation,
- estimation, hypothesis testing and confidence intervals,
- model adequacy checking (residual analysis) and
- variable selection

R (a freely available language and environment for statistical computing and graphics) is used to apply the introduced methods.

Previous knowledge:

StMo or DP

Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	14 x 2L
Tutorial/Practicum	14 x 2L
Group teaching	
Block instruction	
Seminar	

Assessment:

According to the table or as specified in writing by the lecture at the beginning of the semester!

Number	Type	Weighting
1	End of term exam	75%
	Exam during the semester	
1	Further assessments	25%

Language of instruction:

German

Instruction material:

Lecture notes

Comments:

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