



Winter term 2017/18

## Multivariate Statistics

<b>lecture</b>	Mon	4:00 p.m.	6:00 p.m.	AWI 01.010, Bergheimer Str. 58
<b>lecture</b>	Tue	12:00 a.m.	2:00 p.m.	AWI 01.010, Bergheimer Str. 58

First lecture: 16.10.2017

*Commentary:*

The lecture provides an up-to-date introduction to statistical methods for the analysis of multivariate data sets incl. multivariate distributions and tests, principal components and factor analysis, discriminant analysis and classification. The lecture will start with an introduction to matrix algebra and random vectors and will be accompanied by methodological exercise sessions.

*Course content:*

1. The organization and visualization of the data, concept of distance
2. Matrix algebra and random vectors
3. Sample geometry and random sampling
4. The multivariate normal and Wishart distributions
5. Inference about a mean vector
6. Principal components
7. Factor analysis and inference for structured covariance matrices
8. Discrimination and classification

*Course language:* german

*Transcript of records:*

Your grade for this course will be determined in a final exam.

*Literature:*

- Fahrmeir L., Hamerle A. and Tutz G., (1996), Multivariate statistische Verfahren, De Gruyter.  
Johnson R. A. and Wichern D. W., (2007), Applied Multivariate Statistical Analysis, Pearson.

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