RUPRECHT-KARLS-UNIVERSITÄT HEIDELBERG
ALFRED-WEBER-INSTITUT FÜR
WIRTSCHAFTSWISSENSCHAFTEN

Winter term 2016/17

Allgemeine Methodenlehre der Statistik

Lecture	Mon	11:00 a.m.	1:00 p.m.	HEU II, Große Mantelgasse 2
Tutorial	Wed	2:00 p.m.	4:00 p.m.	HEU I, Große Mantelgasse 2
Tutorial	Wed	4:00 p.m.	6:00 p.m.	HEU I, Große Mantelgasse 2
Tutorial	Thu	2:00 p.m.	4:00 p.m.	Hörsaal 1, Neue Universität
Tutorial	Thu	4:00 p.m.	6:00 p.m.	Hörsaal 1, Neue Universität

Start date: Monday, October 17, 2016

Commentary:

The lecture “General Statistical Methods” first treats probability theory and probability calculation and second inferential statistics. It builds on the preceding lecture “Economics and Social Statistics”.

The first part of the lecture introduces basic probability concepts. It then presents distributions of one-dimensional random variables and joint distributions of random variables. Furthermore, we will discuss limit theorems. Limit theorems are fundamental for the second part of the lecture on inferential statistics. In inferential statistics, we mainly consider ways to draw conclusions from a random sample to a population. Essentially, we look at the properties of estimators which make such conclusions possible. A further related approach is hypothesis testing. When testing a hypothesis, we first formulate a hypothesis on the population and then test their validity within the random sample.

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Course content:

I. Probability Theroy

1. Basics of Probability Theory
2. One-dimensional Random Variables and their Distributions
3. Joint Distributions of Random Variables
4. Limit Theorems

II. Inferential Statistics

5. Random Sampling
6. Point Estimation
7. Distribution of Estimators
8. Interval Estimation
9. Hypothesis Testing

Course language: German

Transcript of records:

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

Core Literature:

[1] ECKEY, Hans-Friedrich; KOSFELD, Reinhold; TÜRCK, Matthias (2005): Wahrscheinlichkeitsrechnung und induktive Statistik. Grundlagen - Methoden - Beispiele. Wiesbaden: Gabler.
[2] MOSLER, Karl C.; SCHMID, Friedrich (2011). Wahrscheinlichkeitsrechnung und schließende Statistik. 4. Auflage. Berlin, Heidelberg, New York: Springer.
[3] SCHIRA, Josef (2009). Statistische Methoden der VWL und BWL. Theorie und Praxis. 3. Auflage. München: Pearson Studium.
[4] STOCK, James H.; WATSON, Mark W. (2012). Introduction to Econometrics. Third Edition: Pearson International Edition.

Supplementary Literature

[5] BOL, G. (2007). "Wahrscheinlichkeitstheorie." Oldenburg.
[6] HAMILTON, Lawrence C. (2009). Statistics with Stata. Updated for Version 10: Thomson.
[7] KOGELSCHATZ, H. (2008). Allgemeine Methodenlehre der Statistik (Skript zur Vorlesung): Heidelberg.
[8] KOHLER, Ulrich; KREUTER, Frauke (2008). Datenanalyse mit Stata. 3. Auflage: Oldenbourg.
[9] ECKSTEIN, Peter (2006): Klausurtraining Statistik, 5. Auflage. Wiesbaden: Gabler.
[10] SALSBURG, D. (2002). "The Lady Tasting Tea: How Statistics Revolutionized Science in the Twentieth Century". Henry Holt.
[11] RÜGER, B. (1996). "Induktive Statistik." Oldenburg.