Harald Schmidbauer İstanbul Bilgi Üniversitesi

Bus 701: Advanced Statistics

Fall 2014

Syllabus

The aim of this course is to illustrate statistical thinking in the context of social sciences. Contents:

1. A review of statistics and its foundations
   - Part I: Introduction to statistics; basic concepts; descriptive statistics
   - Part II: Probability and stochastic models
   - Part III: Statistical inference
   - Part IV: Further topics
2. contribution to a current research project
3. critical presentation of a topic about statistics and its applications

Grading:

Presence and presentation:	50%
Research project:	50%

Reading list:

- Hacking, I.: *An Introduction to Probability and Inductive Logic.* Cambridge University Press, 2001.
- Kahneman, D.: *Thinking, Fast and Slow*. Penguin, 2012.
- Newbold, P., Carlson, W.L., & Thorne, B.: *Statistics for Business and Economics,* sixth edition. Prentice Hall, 2006.
- Okasha, S.: *Philosophy of Science: A Very Short Introduction.* Oxford University Press, 2002.
- Pentland, A.: *Social Physics: How Good Ideas Spread — The Lessons from a New Science.* Penguin, 2014.
- Porter, T.M.: *The Rise of Statistical Thinking 1820–1900*. Princeton University Press, 1986.
- Salsburg, D.: *The Lady Tasting Tea.* Henry Holt, 2002.
- Scott, John: *Social Network Analysis. A Handbook,* second edition. Sage Publications, 2006.
- Taleb, N.: *The Black Swan: The Impact of the Highly Improbable,* second edition. Random House, 2010.
- Taleb, N.: *Fooled by Randomness: The Hidden Role of Chance in Life and in the Markets.* Penguin, 2007.
- Venables, W.N. & Ripley, B.D.: *Modern Applied Statistics with S,* fourth edition. Springer, 2002.

Further references will be given in the lectures.