

Power Analysis

Lecturer: Dr. Igor Asanov

Language: English

Credits: 6

Format: Lecture + Exercise

Place: TBA, University of Kassel, Kassel, Germany

Time: 03. 06. 2024, 14:00-18:00. 04. 06. 2024, 14:00-18:00. 05. 06. 2024, 10:00-14:00

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Course Handout: <http://www.igorasanov.com/teaching.html>

Abstract/Overview

Statistical power analysis is a crucial element of the research design plan. It helps to understand if the design of an experimental or observational (empirical) study allows detecting the effect e.g. if the study design allows finding a difference in means between groups. Thus, it helps to see if one should run the study, fund it, or to which extent one should pay attention to the results of this study.

The goal of this course is to explain (1) why and when statistical power analysis is useful, and (2) how to provide statistical power analysis (for your and others' studies).

During the lectures you will learn:

- Why the power of the study is important for your research and scientific knowledge?
- What is the statistical power?
- What are the key ingredients of statistical power analysis?
- How to perform statistical power analysis for experimental and observational (empirical) research?
- How to design a high-powered study?

During the seminars, you will learn to use **G*Power, Optimal Design, R** to provide basic power analysis.

Prerequisites: Basic Statistics

Preferred previous courses: Econometrics; Experimental Economics; Survey Design;

Course Structure

1. Motivation
2. Power and Ingredients of power analysis
3. Design of the high-powered study
4. Advanced issues in power analysis

Examination: To successfully pass the course, students must provide a power analysis of their (or other) study and submit the power analysis report by email for grading.