

NEW COURSE: Data Science for Social Challenges

An MTEC course for PhD and MA students

1 Overview



- ▶ In which **society** do we want to live in?
- ▶ How do we measure the **impact** of social problems?
- ▶ How can social challenges be addressed **effectively**?
- ▶ How can **data science** help us find solutions for pressing social challenges?

If these questions interest you, join our course!

2 Course content

- ▶ Statistical models & interpretation
- ▶ Data sets on social challenges
- ▶ Discuss 3 types of inference:
 - ▶ **Simple inference**
What's the relation between 2 variables?
Models: linear, logistic, and panel regressions
 - ▶ **Causal inference**
What's the causal relationship between variables?
Models: Difference in Differences and matching
 - ▶ **Complex inference**
How to account for interdependencies between observations?
Models: social network analysis

3 Course procedure

Weekly lecture and non-graded exercises

- ▶ **Lecture:**
 - ▶ Introduction to statistical models
 - ▶ Critical reflection
 - ▶ Discussion of ongoing research
- ▶ **Exercise:**
Apply models to real-world data in R.



4 Useful information

- ▶ **Lecturer:** Dr. Laurence Brandenberger and Ramona Roller
- ▶ **Course ID:** 363-1167-00L
- ▶ **Chair:** Chair of Systems Design (Prof. Frank Schweitzer)
- ▶ **Target audience:** (MTEC) Master and PhD students
- ▶ **Prerequisites:** open mind+ interest in data

- ▶ **Period:** Autumn Semester
- ▶ **Lecture:** Tue, 10am-12pm
- ▶ **Exercise:** Fri, 9-10am
- ▶ **ECTs:** 3
- ▶ **Assessment:** reports