

6 ECTS

		Topic	Day	Date	Time	Room
		-- no class --		2019/10/14		
Block A: Basics in R and descriptive statistics	1	Course overview Introduction to R, RStudio and R Markdown Introduction and first steps of empirical data analysis	Monday	2019/10/21	9:15 - 10:45, 11:00 - 12:30	H E.51
	2	Basics of R programming Data manipulation, descriptive statistics, tables, plots -- part 1		2019/10/28		HS 2
	3	Data manipulation, descriptive statistics, tables, plots -- part 2		2019/11/04		H E.51/52
Block B: Basic epidemiological and statistical concepts	4	Epidemiological study designs and study planning	Monday	2019/11/11	9:15 - 10:45, 11:00 - 12:30	H E.51/52
	5	Estimation		2019/11/18		
	6	Hypothesis testing		2019/11/25		
	7	Midterm exam Missing data		2019/12/02		
Block C: Investigating research questions in real data using statistical regression models	8	Linear regression I	Monday	2019/12/09	9:15 - 10:45, 11:00 - 12:30	H 2.57/58
	9	Linear regression II		2019/12/16		
	10	Regression models for binary and count data		2020/01/06		
	11	Analysis of variance & linear mixed models I		2020/01/13		
	12	Linear mixed models II & Meta analysis		2020/01/20		
	13	Survival analysis		2020/01/27		
Block D: Wrap-up	14	Causal inference & Data analysis challenge	Monday	2020/02/03	9:15 - 10:45, 11:00 - 12:30	H E.51/52

Plan as of November 24, 2019. Subject to change.

**Prerequisite:** Bring your own laptop with R and RStudio installation.

**Helpful background:** Introduction to programming class such as the 'Fundamentals of Programming' class by Prof. Arrrich.

**Conditions for admission to final exam:** (i) Hand in solutions to 10 of the 12 weekly assignments (no assignment in lectures 7&14), (ii) pass open book midterm exam.

**Final grade:**

(i) Multiple choice open book midterm exam (20%) on December 2, 2019 (30min-60min).

(ii) Open book take home final exam (80%) containing a real-data analysis which is handed out February 1, 2020, to be handed in by February 24, 2020.