

Ph.D. course: Epidemiological methods in medical research  
Overview of the course

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08 January 2025

# Planning

Date	Time	Room	Teacher	Topic	Prior reading
Thursday 9 January	10.00-10.15	5-0-2B	BO	Welcome and overview of the course	
	10.15-13.00		KSL	Introduction to epidemiology	SN: Ch. 1-2
	14.00-17.00		BO	Measuring disease frequency / association with exposure	Stat refresher
Thursday 16 January	10.00-13.00	5-0-2B	AMNA	Study design 1: Cohort Studies	SN: Ch 3 (p. 79-90)
	14.00-17.00		BC, BO	Practicals on evaluating disease frequency	Programming refresher
Thursday 23 January	10.00-13.00	5-0-2B	AMNA	Bias and Confounding	SN: Ch. 3 (p. 90-103)
	14.00-17.00		BC, BO	Dealing with confounding: DAGs and stratification	Stat refresher
Thursday 30 January	10.00-13.00	5-0-2B	KSL	Study design 2: Case-Control Studies	SN: Ch. 3, p. 90-103
	14.00-17.00		BO, JH	Practicals on DAGs and stratification	
Thursday 6 February	10.00-13.00	5-0-2B	BO	Practicals on case-control studies	CH: Ch. 16-17
	14.00-17.00		PKA	Regression models 1: Poisson and logistic regression	CH: Ch. 22-23.1-2, 24.1-2
Thursday 13 February			Winter holidays		
Thursday 20 February	10.00-13.00	5-0-2B	PKA	Regression models 2: Hypothesis testing, Interactions	CH: Ch. 24.3-7, 25, 26
	14.00-17.00		BO	Practicals on logistic and Poisson regression	
Thursday 27 February	10.00-13.00	5-0-2B	PKA	Regression models 3: Survival analysis, Cox regression model	CH: Ch. 30
	14.00-17.00		BC, BO	Practicals on survival analysis	
Thursday 6 March	10.00-13.00	25-01-53	PKA	Matching and analysis of matched case-control studies	CH: Ch. 19,29
	14.00-17.00		BC, BO	Practicals on case-control analysis	
Thursday 13 March	10.00-13.00	5-0-2B	BC, BO	Tutorial about the Lexis macro + Practical	
	14.00-17.00		BO, BC	Registry data analysis: immortal time bias & standardisation	Stat refresher
Thursday 20 March	10.00-12.00	5-0-2B	KSL, BO	Reproducibility, replication, and good practices in Epidemiology	SN: Ch. 9
	13.00-17.00		BO	Mini seminar: presentation of your research project / an article + Feedback to the teachers	
	2.2.55 2.2.49		KSL AIM		

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	2.2.55 2.2.49		KSL AIM		

⚠ different room the 6th of March

## Course website

<https://absalon.ku.dk/courses/79353>

- slides of the lecture
- ressources: stat &  refresher
  - article to read for the practicals
  - optional reading
- exercices
- dataset for the exercises
- solution to the exercises

# Teachers

Epidemiologist:

- Anne-Marie Nybo Andersen
- Katrine Strandberg-Larsen



Biostatistician:

- Bendix Carstensen
- Brice Ozenne
- Per Kragh Andersen



Both:

- Johannes Hruza

# Practicals

Warm-up exercise: pen and paper!

- questions about what you have seen during the lecture

Main exercise: with the computer

- re-analysis of a "real" study
- recommended software:  , with R studio as user-interface  
(crash course: <http://r.sund.ku.dk/>)

In groups of 2-4 students

- if possible using the same software

2 teachers

- ask questions: we are here to help you

## How to pass the course?

### Mandatory:

- be present (80%)
- give a scientific presentation the last day of the course
  - alone or in pairs
  - about your research or an article/methodology
  - short (8-10 min/pers)

Short description to be sent the February 20th

### Recommended:

- be active: ask questions to the teacher  
or to other students (practicals)
- study the course material:  
slides from lectures, exercise solutions, suggested articles

# Questions

